Information & Communication Technology

Reading Book

Grade 7

Educational Publications Department

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The National Anthem of Sri Lanka

Sri Lanka Matha
Apa Sri Lanka Namo Namo Namo Namo Matha
Sundara siri barinee, surendi athi sobamana Lanka
Dhanya dhanaya neka mal palaturu piri jaya bhoomiya ramya
Apa hata sepa siri setha sadana jeewanaye matha
Piliganu mena apa bhakthi pooja Namo Namo Matha
Apa Sri Lanka Namo Namo Namo Namo Matha
Oba we apa vidya
Obamaya apa sathya
Oba we apa shakthi
Apa hada thula bhakthi
Oba apa aloke
Apage anuprane
Oba apa jeevana we
Apa mukthiya oba we
Nava jeevana demine, nithina apa pubudukaran matha
Gnana veerya vadawamina regena yanu mana jaya bhoomi kara
Eka mavakage daru kela bevina
Yamu yamu vee nopama
Prema vada sema bheda durerada
Namo, Namo Matha
Apa Sri Lanka Namo Namo Namo Namo Matha

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ආනන්ද සමරකෝන්

ஒரு தாய் மக்கள் நாமாவோம்
ஒன்றே நாம் வாழும் இல்லம்
நன்றே உடலில் ஓடும்
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யாவரும் அன்பு கருணையுடன்
ஒற்றுமை சிறக்க வாழ்ந்திடுதல்
பொன்னும் மணியும் முத்துமல்ல - அதுவே
யான்று மழியாச் செல்வமன்றோ.

ஆனந்த சமரக்கோன்
கவிதையின் பெயர்ப்பு.

Being innovative, changing with right knowledge
Be a light to the country as well as to the world.

Message from the Hon. Minister of Education

The past two decades have been significant in the world history due to changes that took place in technology. The present students face a lot of new challenges along with the rapid development of Information Technology, communication and other related fields. The manner of career opportunities are liable to change specifically in the near future. In such an environment, with a new technological and intellectual society, thousands of innovative career opportunities would be created. To win those challenges, it is the responsibility of the Sri Lankan Government and myself, as the Minister of Education, to empower you all.

This book is a product of free education. Your aim must be to use this book properly and acquire the necessary knowledge out of it. The government in turn is able to provide free textbooks to you, as a result of the commitment and labour of your parents and elders.

Since we have understood that the education is crucial in deciding the future of a country, the government has taken steps to change curriculum to suit the rapid changes of the technological world. Hence, you have to dedicate yourselves to become productive citizens. I believe that the knowledge this book provides will suffice your aim.

It is your duty to give a proper value to the money spent by the government on your education. Also you should understand that education determines your future. Make sure that you reach the optimum social stratum through education.

I congratulate you to enjoy the benefits of free education and bloom as an honoured citizen who takes the name of Sri Lanka to the world.

Akila Viraj Kariyawasam
Minister of Education

Foreword

The educational objectives of the contemporary world are becoming more complex along with the economic, social, cultural and technological development. The learning and teaching process too is changing in relation to human experiences, technological differences, research and new indices. Therefore, it is required to produce the textbook by including subject related information according to the objectives in the syllabus in order to maintain the teaching process by organizing learning experiences that suit to the learner needs. The textbook is not merely a learning tool for the learner. It is a blessing that contributes to obtain a higher education along with a development of conduct and attitudes, to develop values and to obtain learning experiences.

The government in its realization of the concept of free education has offered you all the textbooks from grades 1-11. I would like to remind you that you should make the maximum use of these textbooks and protect them well. I sincerely hope that this textbook would assist you to obtain the expertise to become a virtuous citizen with a complete personality who would be a valuable asset to the country.

I would like to bestow my sincere thanks on the members of the editorial and writer boards as well as on the staff of the Educational Publications Department who have strived to offer this textbook to you.

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We would be grateful if you could send your suggestions and comments on the content of the grade 6 - 11 Information and Communication Technology textbooks and on the development of the creativity of the students to **feedbackicttextbook@gmail.com**

Editorial Board

01 Central Processing Unit

- Computer is like a kitchen in a hotel, and the Central Processing Unit is like a chef in that kitchen.
- As a chef prepares food, the Central Processing Unit processes data in the computer and converts them into information.
- As the food preparation speed depends on the speed of the chef, the speed of the computer depends on the speed of the Central Processing Unit.
- A dual-core processor is like having a kitchen with two chefs preparing two meals, so two things can be prepared at the same time.

1.1 Let's identify the Central Processing Unit

The Central Processing Unit – (CPU) can be identified as a digital circuit that processes data according to given instructions. Whatever task performed by the computer, in all such instances, the Central Processing Unit runs in the background.

The main function of the processor is to execute instructions stored in a computer programme. That is, it gets data and processes them according to given instructions.

Figure 1.1 - Central Processing Unit

While the Central Processing Unit can't be observed from the outside, it is positioned (fixed) on the motherboard, inside the system unit.

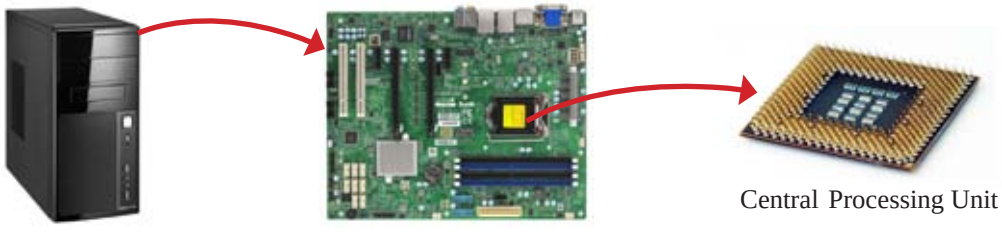


Figure 1.2 - Location of the Central Processing Unit

1.2 Let's identify the Components of the Central Processing Unit

The Central Processing Unit consists of three main components.

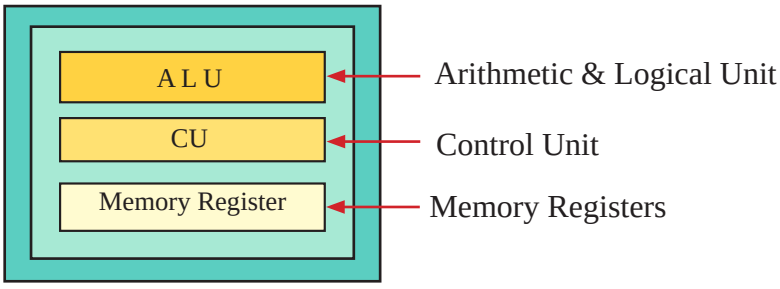
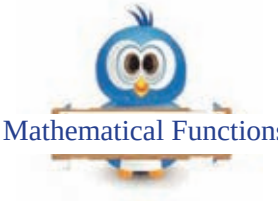


Figure 1.3 - Main components of the Central Processing Unit

1.2.1 Arithmetic and Logical Unit

Mathematical and logical functions are performed in the Arithmetic and Logical Unit. The functions of this unit can be further divided into two main sub-functions.



Mathematical calculations such as addition, subtraction, multiplication and division.

Eg : 2 + 3 = 5

Logical operations such as comparison of two numbers.

Eg : 3 > 2

1.2.2 Control Unit

The Control Unit communicates between manipulates and controls the hardware connected to the computer. It also performs tasks such as controlling input and output data, ensuring that data is sent to right place at the right time and being alert whether relevant signals are successfully received.

1.2.3 Memory Registers

It temporarily stores data and instructions that are being used by the Central Processing Unit. The storage capacity of the memory registers is very low when compared with other memory devices like hard disk. However its data access speed is very high.

Activity 1 - see Workbook 1.1

1.3 Let's learn about the evolution of Central Processing Unit

The Central Processing Unit of a computer system can be divided into four generations based on the electronic technology used to manufacture it.

1. First Generation (vacuum tubes)
2. Second Generation (transistor)
3. Third Generation (integrated circuit)
4. Fourth Generation (microprocessor)

While the above classification of the Central Processing Unit is a simple classification only for your understanding in grade 7, in many cases, the evolution of the Central Processing Unit has been shown in different generations in diverse ways too.

First Generation
Duration (time period) 1940-1956

Electronic technology used: Vacuum tube

Power consumption: A large amount of vacuum tubes (about 18000) were used and they emitted a lot of heat was required. A cooling system to control the heat. So, it led to a heavy power consumption.

Size of the computer : As large as a room

Execution speed: Measured in millsecond

Cost : It cost a lot for production and maintenance

e.g.: ENIAC, UNIVAC, EDVAC

Figure 1.4 - Some vaccume tubes

Figure 1.5 - A computer of the first generation

Second Generation
Duration (time period) 1956 – 1963

Electronic Technology used: Transistor

Power consumption: Less power consumption when compared with the first generation computers.

Size of the computer : Smaller size when compared with the first generation

Execution speed: Measured in micro second

Cost : It costs a lot for purchasing

e.g.: IBM 7030, CDC 1604

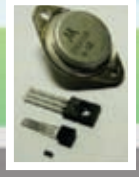


Figure 1.6 - Some transistors

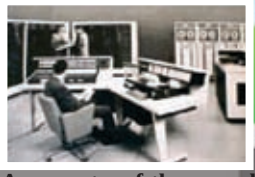


Figure 1.7 - A computer of the second generation

Third Generation
Duration (time period) 1964 – 1971

Electronic Technology used: Integrated circuit

Power consumption: Less power consumption when compared with the second generation

Size of the computer : Smaller size when compared with the second generation

Execution speed: measured in Nano second

Cost : It cost less for purchasing when compared with the second generation

e.g.: IBM 360, CDC 6600

Figure 1.8 - An intergrated circuit

Figure 1.9 - A computer of the third generation

Fourth Generation
Duration (time period) from 1971 to date

Electronic Technology used: Microprocessor

Power consumption: Less power consumption when compared with the third generation

Size of the computer : Smaller size when compared with the third generation

Execution speed: MIPS – Million of Instructions Per Second and picosecond.

Cost : It costs less for purchasing when compared with the third generation

e.g.: Modern computers that are in use.

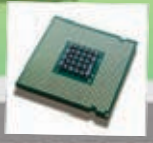


Figure 1.10 - A microprocessor

Figure 1.3 - Some computers of the fourth generation

mille second 1 = 0.001 second

micro second 1 = 0.000001 second

nano second 1 = 0.000000001 second

pico second 1 = 0.000000000001 second

Speed of the Central Processing Unit

Speed of the Central Processing Unit also known as clock speed is the number of instructions executed in a second. The unit used to measure the speed of the Central Processing Unit is hertz (Hz).

In modern computers, the unit megahertz (MHz) or gigahertz (GHz) is used to measure the speed of the Central Processing Unit.

Kilo hertz 1 Kz = 1000 Hz

Mega hertz 1 Mz = 1000 000 Hz

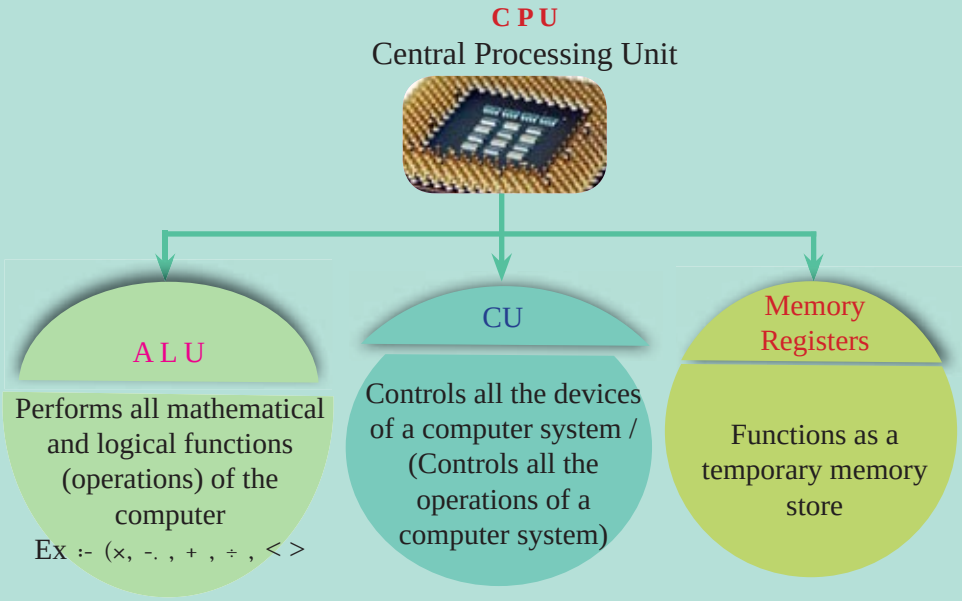
Giga hertz 1 Gz = 1000 000 000 Hz

Activity 2 - see Workbook 1.2

Summary

- (CPU) can be considered as the brain of the computer.
- There are two main components of the Central Processing Unit.
  - Arithmetic and Logical Unit (ALU)
  - Control Unit (CU)

Additionally, memory registers too belong to the Central Processing Unit.



- Speed of the Central Processing Unit increased gradually with the evolution of the computer.
- Computer can be divided into four generations based on the electronic technology used in the Central Processing Unit.
  1. First Generation (vacuum tubes)
  2. Second Generation (transistors)
  3. Third Generation (integrated circuits)
  4. Fourth Generation (microprocessors)

02 Operating System

2.1 Let's learn about the Operating System

The operating system is a software. This software is necessary to fulfil the tasks using a computer. Many tasks are such as controlling hardware and software and providing a user interface are performed by it.

- Provides a user interface to work easily with the computer.
- Controls the functions of the Central Processing Unit (CPU)
- Manages the computer memory efficiently.
- Controls the activities related to storage devices.
- Performs the tasks related to processing files and folders correctly.
- Helps to protect the computer through usernames and passwords.
- Manages the hardware.

2.2 Different Types of Operating Systems

Some examples for operating systems used in computers.

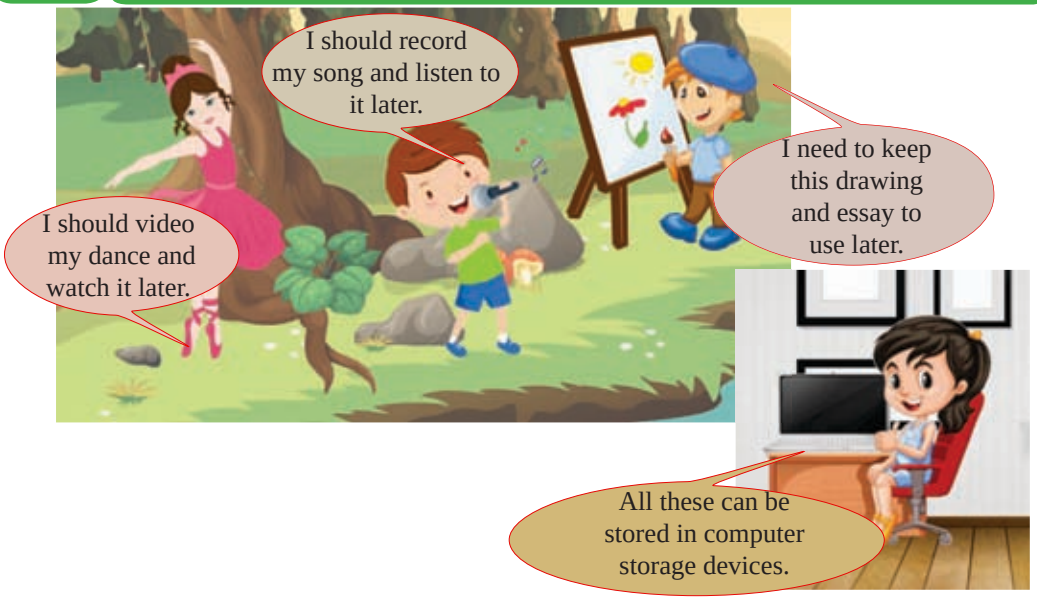
Microsoft DOS (MS DOS)	
Microsoft Windows	
Apple Macintosh or Mac OS	
Operating systems produced using Linux Ubuntu Fedora	

Some examples for operating systems used in mobile phones.

Android Used in smart mobile phones	
iOS or **iPhone OS** Used in Apple mobile phones such as iPhone, iPad, iPod	
Blackberry OS Used in Blackberry mobile phones	
Windows Mobile OS Used in mobile phones like Lumia, HTC	

Activity 1 - see Workbook 1.1

2.3 Computer Storage Devices



Data and information are in different forms such as doucments, photos, videos, animations, voices and sounds.
That data and information can be stored in computer storage devices. Similarly, computer programmes which give instructions to the computer can be stored too.

Figure 2.1 - Examples for data, information and programmes that can be stored in storage devices

Computer Storage Devices

Devices which are used to store data, information and programmes that belong to computer are known as computer storage devices.

Computer storage devices can be divided into several parts, according to their manufacturing technology.

1. Magnetic Media Devices. Eg: Hard Disk
2. Optical Media Devices Eg: Compact Disk
3. Solid State Media Devices Eg: Pen Drive

Functions and technology of each of the above media devices are different.

2.3.1 Magnetic Media Devices

Magnetic tapes, floppy disks and hard disks are known as magnetic media devices. They consist of a magnetic surface or a magnetic tape.

• Hard Disk

The hard disk consists of a magnetised platter and a moving metal head. There are two different types of hard disks, internal hard disks and external hard disks.

Magnetised platter and metal head

A large amount of data can be stored permenently in the internal hard disk. It is a magnetic media device which is in the system unit. The external hard disk is a portable storage device. It can be chosen in various capacities such as 500 GB, 1 TB, 2 TB.

hard disk

portable external hard disk

- Magnetic Tapes

A magnetic tape is a thin plastic tape covered with a magnetic substance. It is used for recording sounds, images or computer data etc. The magnatic tape which was used often in the past has now become obsolete.

Magnetic Tape

- Floppy Disk

A floppy disk is a magnetic media device that can be used to store small files. It contains a capacity of 1.44 MB. It is used to carry data because it is an external storage device. But is becoming obsolete.

At present, there are disks which are produced by using the same technology used to produce the floppy disks such as zip disks and jazz disks. The capacity of these disks is greater than that of the floppy disks. But they are not used often.

floppy disk
1.44 MB

zip disk
250 MB

jazz disk
2 GB

2.3.2 Optical Media Devices

In optical media devices, data is read and written by laser beams. Optical disks are of several types. They all are portable.

- CD - Compact Disks

There are two types of disks such as recordable (CD-R) and rewritable (CD-RW). The capacity of these disks are 650MB and 700MB.

Compact Disks
CD-R and CD-RW

- Digital Versatile Disks (DVD)

They are of two types; DVD-R (data can be written once) and DVD - RWC (rewritable). The capacity of these disks are 4.7 GB, 8.5 GB, 15 GB and 30 GB.

Digital Versatile Disks DVD-R and DVD-RW

- Blue Ray Disks

In these disks, data can be stored on several levels as 25 GB on each level.

blue ray disks

2.3.3 Solid State Media Devices

Solid state media devices are a type of device which write and read data electronically at a high speed. As they do not have moving parts as in hard disks and compact disks to write and read data, they are known as solid state media devices.

Solid state Drrive
(SSD drive)

Pen Drive

Memory Card

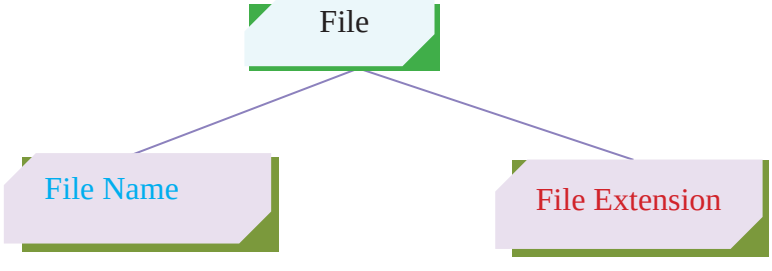
Figure 2.2 - Examples for Solid state divices media

Activity 2 : See Workbook 2.2

2.4 Let's Learn about File and Folder

2.4.1 What is a File?

A file is anything that is saved in the computer such as a letter, a song or a photo. A file has two parts.



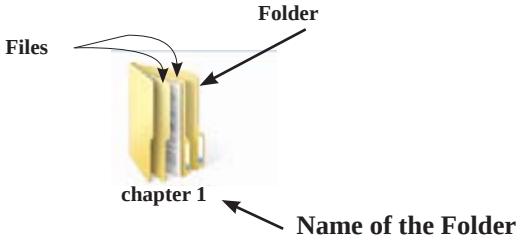
File name : Used to identify the file.
File Extension : Used to indicate the application software of the file.

ဥပမာ - sportmeet.docx

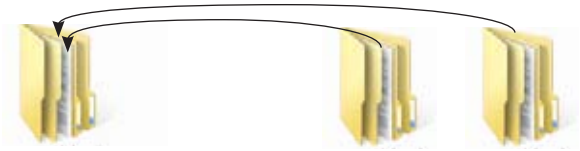
File name — File Extension

This is a file named 'sportmeet', created by a word processing software.

2.4.2 Let's learn about Folder



The palce where files are stored is a folder. They are used to store files that are related to each other. It helps to keep files in order and to retrieve them easily and fast.



2.5 Let's create and edit a Folder

Creating a Folder

The methods used to create a folder can be different according to the operating system. Figure 2.3 shows one such method.

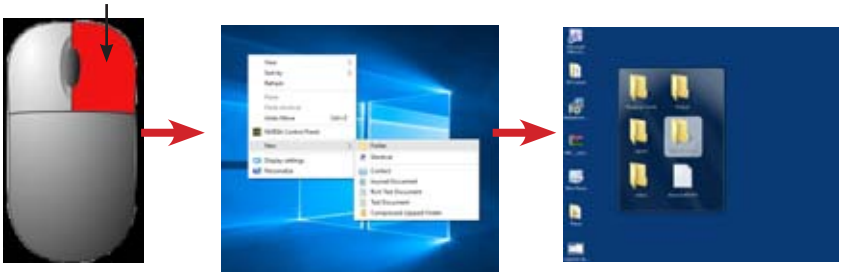


Figure 2.3 - Steps of creating a folder

Activity 3 : See Workbook 2.3

Saving Files in a Folder

Files created should be saved to reuse them later. To save a file, save or Save As commands are used.

When saving a file for the first time, despite the window selected, Save As command window will open.

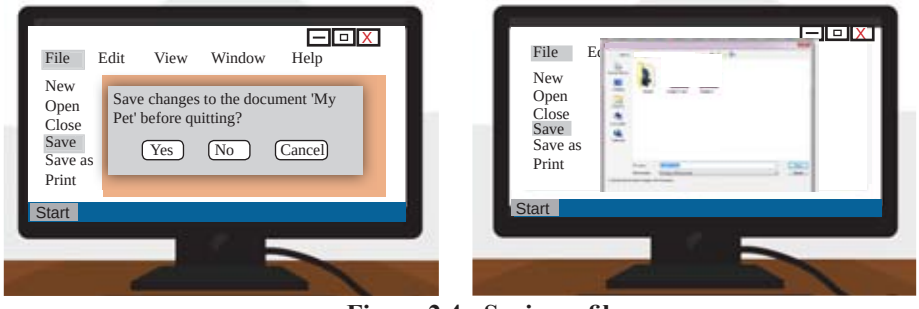


Figure 2.4 - Saving a file

After selecting the folder in which the file is to be stored, by giving the save command, the file is stored in the folder.

Opening a created Folder

The folder can be opened by taking the cursor on to the folder and double clicking on it.

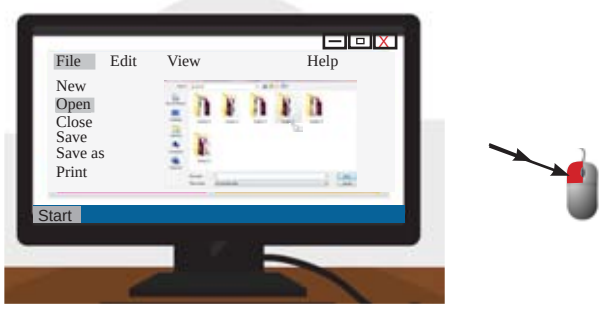


Figure 2.5 - Opening a file

Coping and Moving a Folder

A folder can be copied or moved to another location. It can be internal location or an external storage device.

First, take the cursor to the location of the folder and select it.

To Copy

Step 1

- Firs, select the Copy command in the tool bar or the Copy command shown when the right button of the mouse is clicked.

Step 2

- Then, go to the location where it should be pasted and select Paste command.

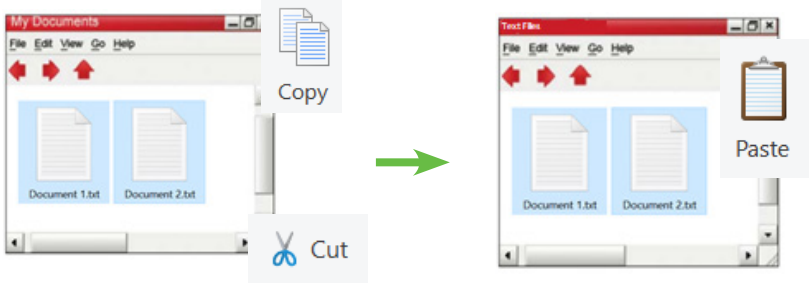
To Move

Step 1

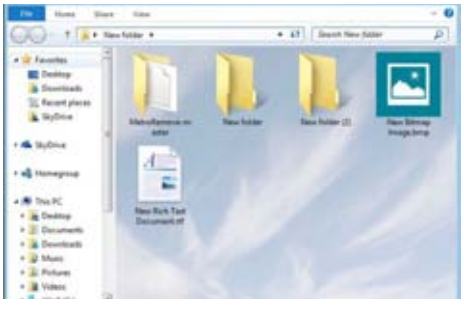
- First, select the Cut command in the tool bar or the Cut command shown when the right button of the mouse is clicked.

Step 2

- Then, go to the relevant location and select Paste command.



Changing the Name of a Folder



Step 1

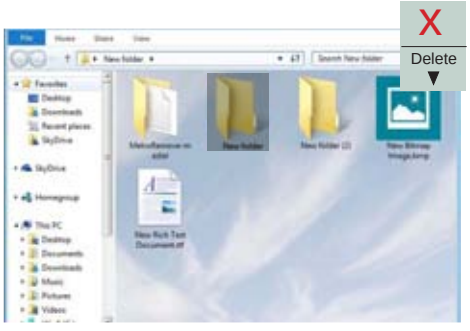
To change the name of a folder, take the mouse pointer on to the folder, Then select Rename command after clicking the right button of the mouse.

Step 2

Type the required name.

Deleting a Folder

Delete temporarily



Step 1
Select the folder that needs to be deleted.

Step 2
Press the Delete button on the keyboard.

Important

- If you delete a folder that is in an internal location such as in a hard disk, it is deleted temporarily. That means, it can be retrieved when needed.
- If you delete a folder that is in an external storage device such as a pen drive, it is permanently deleted. It cannot be retrieved again.

Delete Permanently

Step 1
To delete a file or a folder permanently, press Shift and Delete keys together.

Step 2
Select Yes command in the dialog box.

Activity 4 : See Workbook 2.4

2.6 Let's identify the Characteristics of a File and a Folder

There are characteristics in a file or a folder such as size, type and date modified. When the mouse pointer is taken on to the relevant file or folder and when right button is clicked a menu is displayed. Select the Properties command and you can see these characteristics.

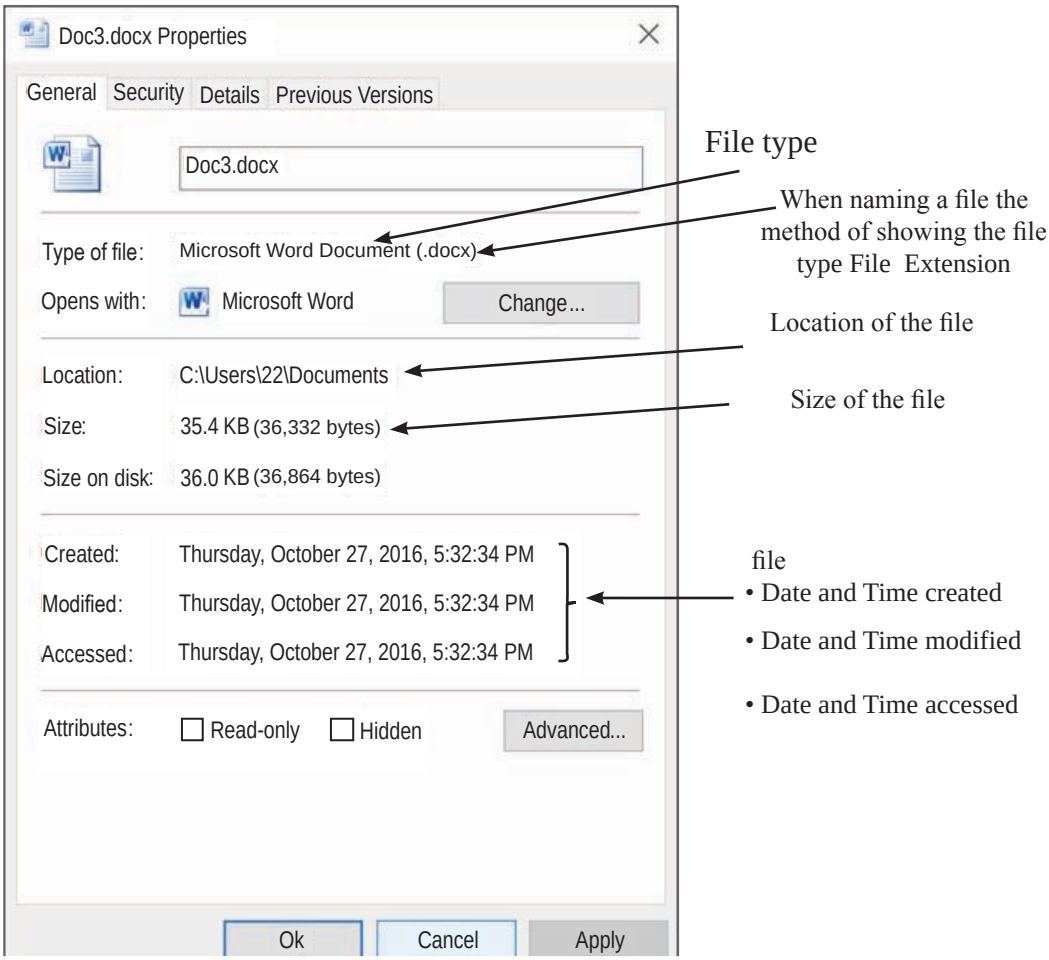


Figure 2.5 - Identifying the characteristics of a File

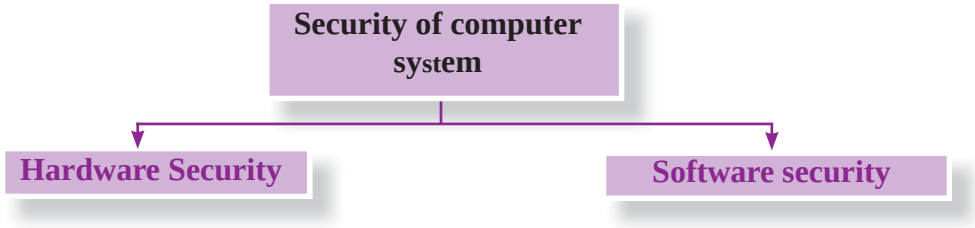
Summary

- The operating system is the main software in a computer that enables communication between man and the computer and that controls the computer hardware and other software.
- Operating systems like Microsoft Windows, Apple Macintosh, Linux are used in computers and operating systems like Android, IOS, Blackberry OS, Windows Mobile OS are used in mobile phones.
- Data in various forms such as documents, photos, videos, animations, voice and sounds as well as programmes that give instructions to the computer are stored in computer storage devices.
- Storage devices can be divided into three categories according to the technology used. They are magnetic media devices such as hard disks optical media devices such as compact disks and solid state media devices such as pen drives.
- Several managements activities such as creating files and folders, editing, saving, copying and moving can be performed.

03 Security of the Computer System

3.1 Let's protect Computer System

It is essential to have adopted various prior protective measures for the safety and the durability of computers. The security of the computer system can be divided into two parts.



3.2 Let's protect Computer Hardware

Computer Hardware

Any physical component of a computer that you can touch and see is called hardware. It has a definite shape. As there are hardware devices outside of a computer, there are hardware devices inside the system unit too.

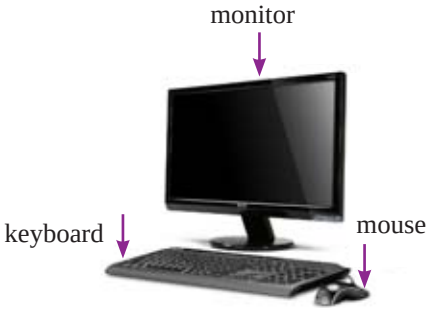


Figure 3.1 - Some hardware devices that can be seen externally

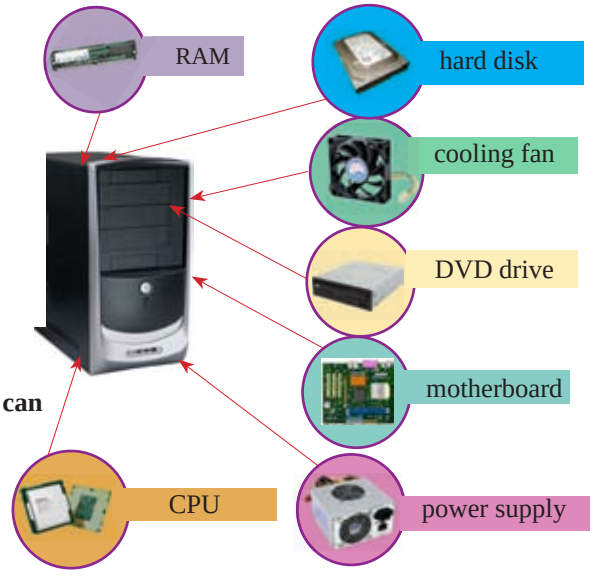


Figure 3.2 - Some hardware devices inside the system unit

Exercise 1: See Workbook 3.1

3.2.1 Possible Hardware Security Issues

Some main factors that may cause physical damage to hardware devices;

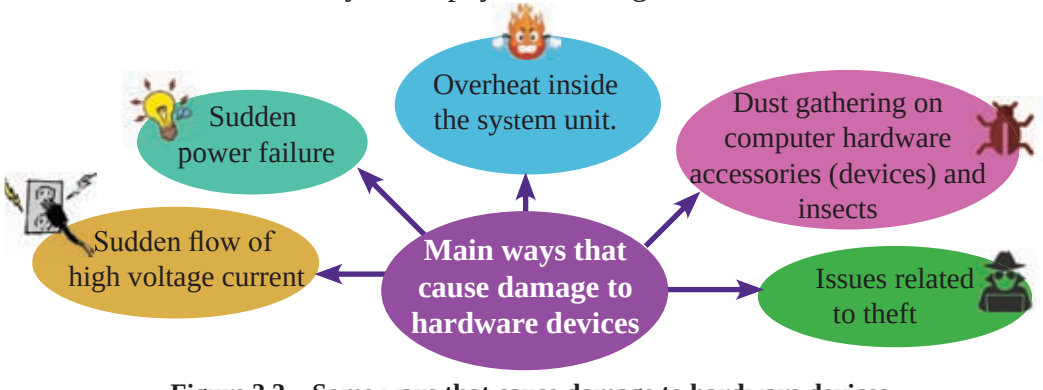
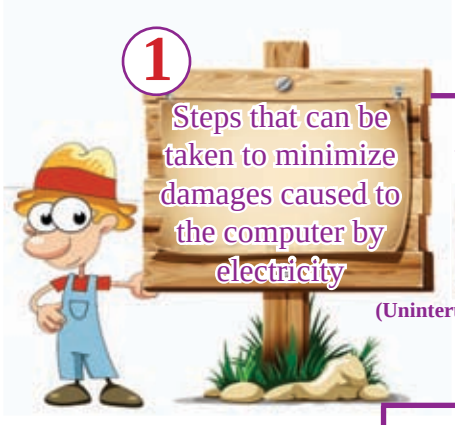


Figure 3.3 – Some ways that cause damage to hardware devices

3.2.2 Precautionary Methods to protect Physical Components of a Computer



Using UPS

(Uninterupted power supply - UPS)

- During sudden power failure, UPS continues to supply power to computer without interruption for a while.
- So, it enables to give sufficient time to save the current work and shut down the computer.

Using Fuse

fuse

- Prevents damages caused to computer due to sudden flow of high voltage current
- It is widely used in power supply units and etc.
- However, at present Mini Circuit Breakers-MCB are used in place of fuse due to easy use.

Using surge protection

surge protection

- Protects the computer from high voltage current and lightning
- Controls the flow of high voltage current to the devices and sends it to earth

Installing air conditioners in the computer laboratory to control the heat

Fixing cooling fans on devices which get heated highly inside the computer

It is essential to keep the computer laboratory clean and tidy in order to protect it from physical harm such as dust gathering,high moisture and insects' menace. For that, some steps that we can follow can be shown as follows.

Figure 3.4 – Some steps that can be taken to protect the computer from physical harm

- By entering the lab without footwear, the computer lab can be kept free of sand and dust.
- Dust gathering on computer circuits (devices) can be prevented by cleaning all the computers in the lab at least once in every three months.
- Taking food in the lab can attract insects like ants to the food particles fallen on the ground
- Moisture in the laboratory may cause short circuit.

Making doors and windows of the laboratory in such a way as to be locked Property.

Protecting system unit by locking it

Using CCTV camera

Exercise 2 : see Workbook 3.2

3.3 Let's protect Computer Software Components

Computer Software

Data and information in the computer and programmes used for various tasks come under the category of software.

Example:

Operating System
Word processing software
Files containing documents
Files containing pictures / images

3.3.1 Possible Software Security Issues

Some instances that may cause possible threat to software are mentioned below.

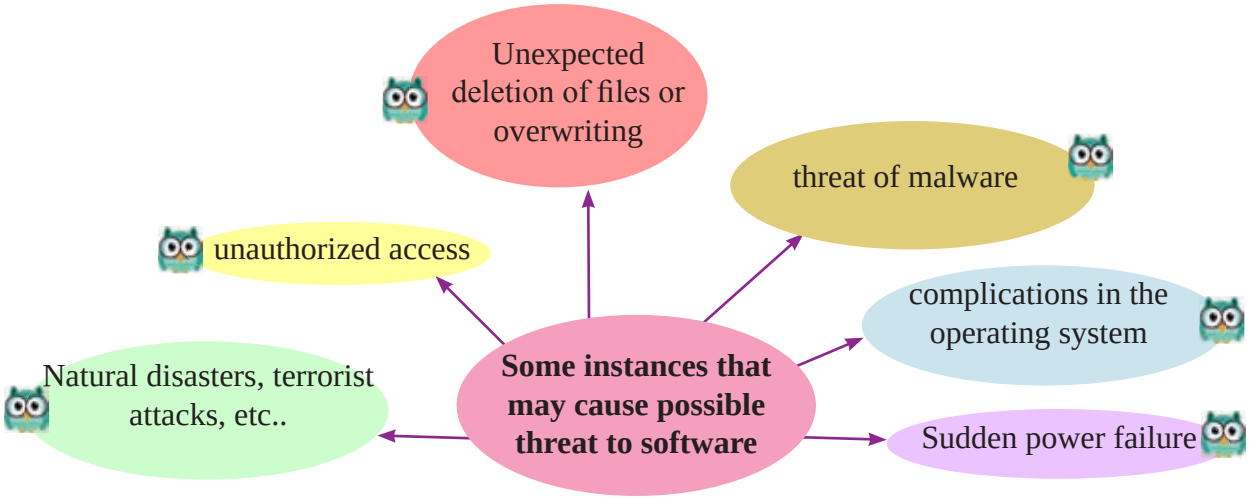


Figure 3.4 – Some instances that may cause possible threat to software

3.3.2 Precautionary methods to protect Software Components of a Computer

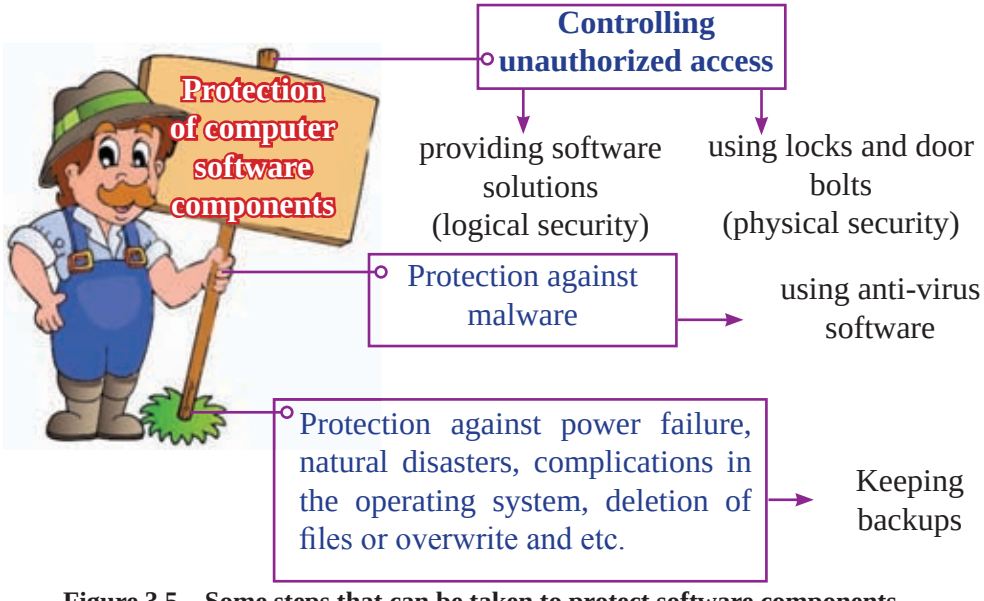


Figure 3.5 – Some steps that can be taken to protect software components

Exercise 3 : see Workbook 3.3

1 Providing Protection against Malware

Malware is a main factor that can couse a threat against the security of computer software.

What is malicious software (malware)?

Malicious software can be defined as any man-made software or part of a software that functions against the requirements of the computer user and designed to intentionally cause damage to

- software installed in the computer
- data, information stored in the computer
- computer networks
- and perhaps computer hardware devices as well.

There are several types of malware. Some of them are hybrid in nature, that is, they take different forms. From time to time they operate in different forms.
For example,
A malware that behaves as a computer virus at a time, behaves as a Trojan horse at another time.

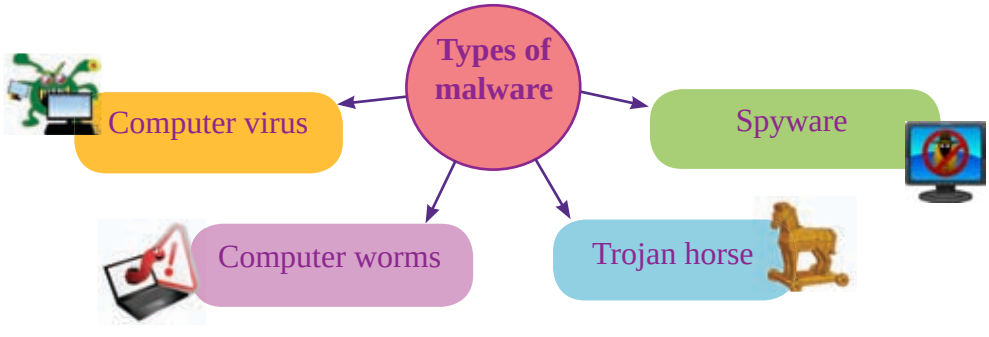


Figure 3.6 – Some types of malware

1. Computer virus

A computer virus is a main malicious software that gains entry to computer software and files and which is capable of replacating itself and designed to spread from computer to computer through portable devices. It can delete or modify data / information and it can corrupt software as well.

2. Computer worms

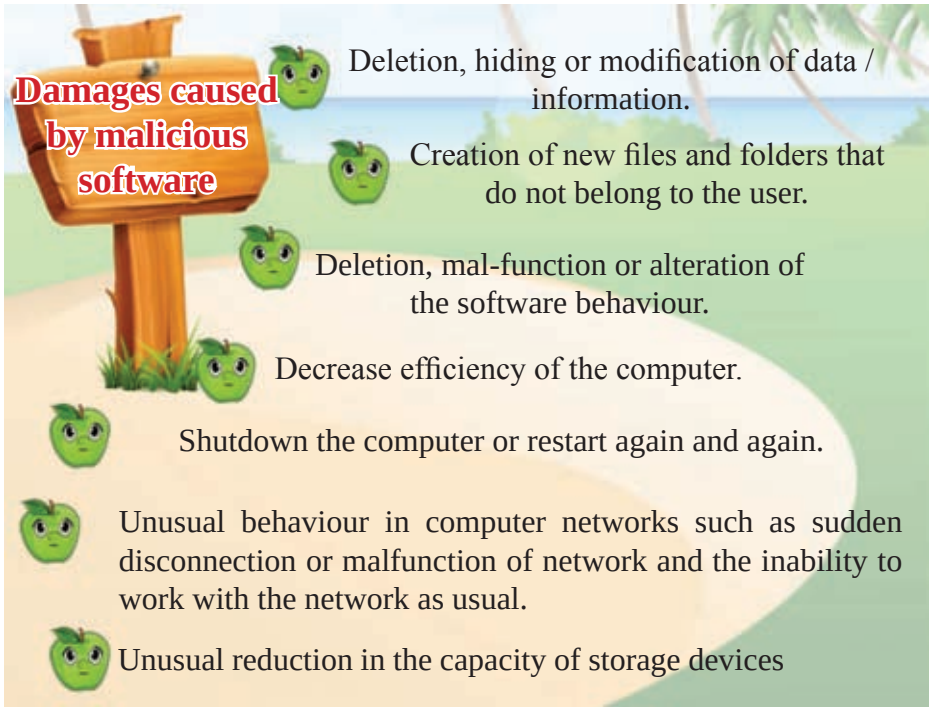
It causes damages similar to those of viruses. However, the main difference is that it spreads across computer networks or internet without the support of a host program or any human interaction.

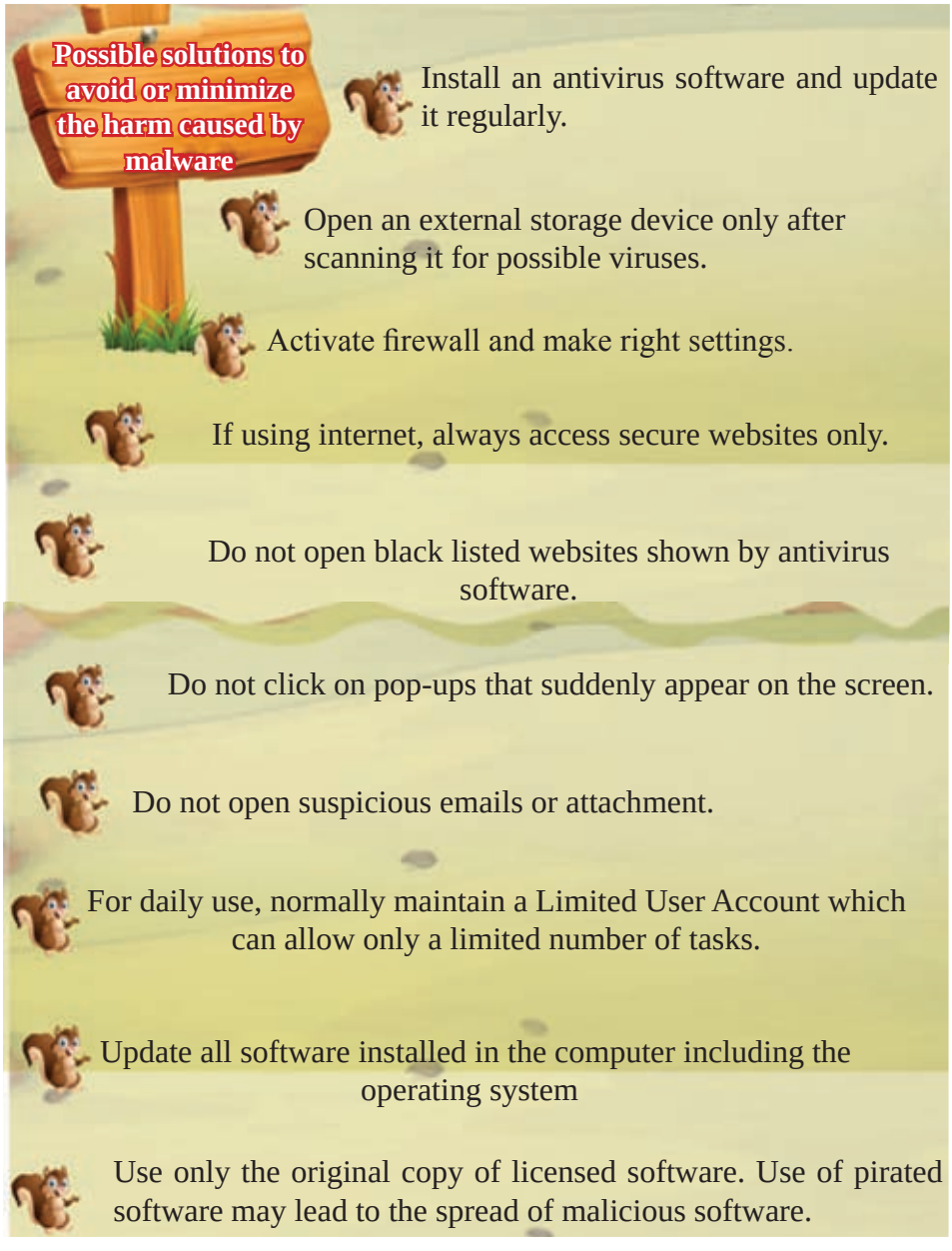
3. Trojan horse

While it seems a useful software at first sight, it will cause damage to the user secretly once he begins to use it.

4. Spyware

It is a malicious software that secretly collects data about a person's computer usage, internet usage and etc.., and sends them to the relevant party without his knowledge. Data and information too can be provided to the other party secretly through this software.





Exercise 5 : see Workbook 3.5

2 Keeping Backups

Keeping backups can be defined as a process of keeping copies of software components.

Copies kept as backups can be used in case the original copy is misplaced or damaged. Several storage techniques can be applied to keep backups.

eg:

Compact disks (CD)
Digital Video Disks (DVD)
external hard disks
Different location in the same computer (another folder or another drive)

3 Access Control

Providing software solutions for access control

It means the methods and services provided by several software to control access to computer and safeguard its resources.

- Using strong and difficult to guess password
- Creation of suitable user accounts
- Encryption

By following the above mentioned methods, not only access to computer can be controlled but also data and information can be protected from sudden loss.

Encryption is another way of protecting data. Encrypted data cannot be read and understood even if it falls into wrong hands. This method is adopted especially when sensitive data is to be communicated.

Use of physical locks for access control

The computer system, data and information stored in the computers and software are protected by using devices and methods that are in the form of hardware in this method.

For this, following methods are used.

1. Keeping the computer at a secure place.

It is advisable to keep the computer that contains sensitive and valuable data, information at a secure place, so that it will be protected from thieves and unlawful entry of people.

2. Use of CCTV cameras and alarms

Tasks such as monitoring movements when necessary, provision of automatic urgent messages are done by this system.

3. Use biometric passwords

At present, finger prints and voice recognition methods are widely used to access computer systems and to open doors of the computer laboratory.

Unlike a conventional password, using biometric passwords is somewhat a modern method. Permission to access the system is granted only after recognizing authorized person's identity through finger prints, voice, face or iris.

Figure 3.7 Use of biometric passwords in mobile phones and laptop computers

Exercise 5 : see Workbook 3.5

Summary

- When providing security to the computer system, both hardware and software components should be given equal attention.
- Some possible hardware security issues;
  - sudden power failure
  - flow of high voltage current
  - overheating inside the computer system
  - dust gathering on computer hardware and insects menace
  - theft menace
- For the protection of hardware, precautionary methods such as,
  - minimizing harm caused to the computer by electricity
  - minimizing overheating inside the computer
  - protecting computer from physical damage
  - protecting from thieves

  can be used.
- Some possible software security issues;
  - attack of malware
  - unauthorized access
  - sudden power failures
  - natural disaster, terrorism etc..,
  - complications in the Operating System
  - unexpected deletion of files, or overwrite
- For the protection of software, precautionary methods such as,
  - providing protection against malware
  - keeping backups
  - access control

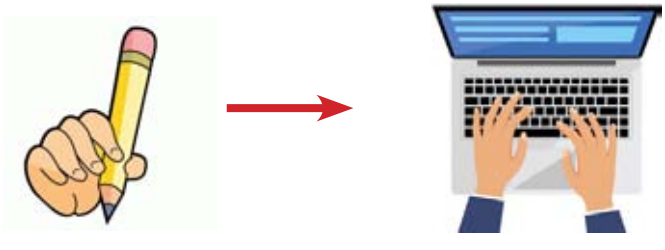
  can be used.

04 Word processing

4.1 Let's identify Word Processing

Composing, editing (manipulating) and/or storing a text based document in any style is called word processing.

A word processor can be any tool from a simple pencil to a complicated computer software.



Exercise 1 : see Workbook 4.1

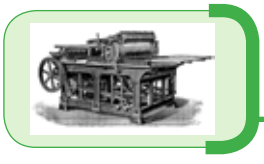
History of Word Processing

Composing letters and documents started a long time ago. It started with writing using objects such as leaves, stone chips and skin and developed so rapidly as to use a computer software to prepare a document by now.

Writing using various objects that were available in the environment.
(leaves, skin, stone chips etc..)

Invention of paper and composing books by copy writing manually

Use of wood blocks and clay blocks for printing



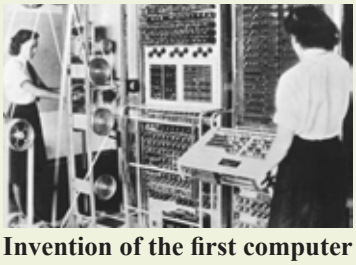
Invention of the printing machine

Invention of the manual typewriter

Invention of the electric/electronic typewriter

Use of computer for word processing

Special landmarks in the use of computer for word processing



Invention of the first computer for word processing (Decade 1960)

Creation of the first word processing programme (1979)

4.2 Let's learn about Word Processing Software

Word processing software can be defined as a computer programme capable of creating a document, editing its content, modifying (formatting) its colour or style and sometimes printing it in different styles.

Examples for word processing software

Microsoft Office Word

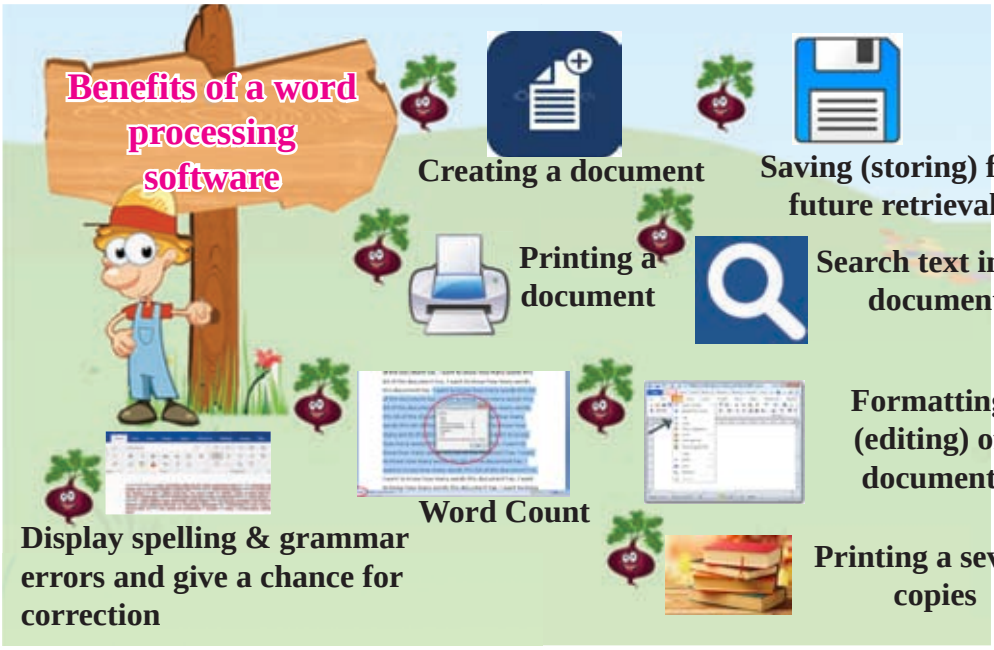
Open Office Writer

Corel Word Perfect

iWork Pages

Libre Office Writer

Benefits of using a Word Processing Software



Exercise 2 : see Workbook 4.2

4.3 Let's learn about the Keyboard

It is essential to know how to use a keyboard when preparing a document with a word processing software. By practising to use the computer keyboard correctly, computer typing can become very easy and more efficient.

Typical Keyboard

The keys in the keyboard can be divided into several groups based on the function.

- **Control keys**
- **Function keys**
- **Character keys**
- **Navigation keys**
- **Numeric keypad**

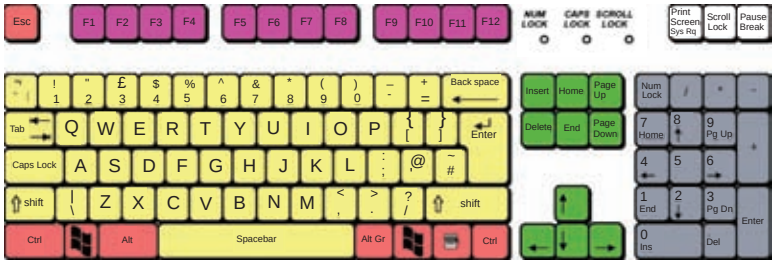


Figure 4.1 Key arrangement on a typical keyboard

Control Keys) These keys are used alone or in combination with other keys to perform certain actions. The most frequently used control keys are Ctrl, Alt and Esc.

Character Keys These keys are used to type in letters, numbers, punctuation marks and symbols when preparing a document.

Function Keys The function keys are used to perform a specific task. The functionality of these keys may differ from programme to programme.

Navigation Keys These keys are used for moving around on a webpage and for editing text. They include the arrow keys, Home, End, Page Up, Page Down, Delete and Insert keys.

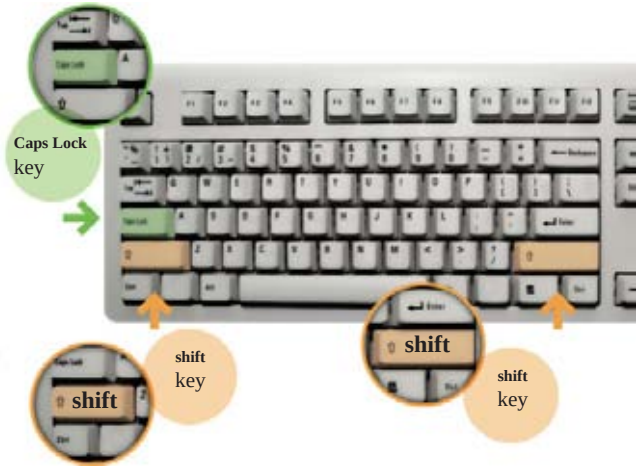
Numeric Keypad

The numeric keypad is used to enter numbers quickly.

How the keys are arranged in a typical keyboard is shown in Figure 4.1. It is also known as QWERTY keyboard considering the design for alphabets. In some cases, keyboards that are slightly different from this type of keyboard are also available.

Use of Caps Lock key

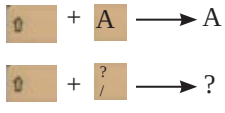
When the Caps Lock key is pressed once capital letter's are typed. When it is necessary to type normal letters, press the caps lock key again.



- Press Caps Lock key once space , C, D
- Press Caps Lock key again space a, c, d

Use of Shift Key

There are two shift keys on the right and left sides of the keyboard. When letter keys are pressed while keeping the shift key pressed, English capital letters are typed. Similarly when other keys are pressed while keeping the shift key pressed, the symbol on the top of the key is typed.



Space bar – It is used to create an empty space between two words. If pressed once, a single space is created and if pressed twice, two spaces are created and so on.

eg:-

Pressing once Thank you

Pressing twice Thank you

Tab key – It creates a somewhat big space between two words. Pressing the tab key once creates a single space and pressing it twice creates two spaces and so on.

eg:

Pressing once Thank you

Pressing twice Thank you

Enter key – Pressing the enter key once, moves the cursor down to the next line.

eg:

Pressing once Thank

you

Arrow keys – It moves the cursor up, down, left or right on the screen.

Backspace key – When pressed once, it deletes any character, space, number or any other object to the left of the cursor. (cursor's current position)

Exercise 3 : see Workbook 4.3

4.4 Let's use the Keyboard correctly

Sitting with the correct posture

As you learned in Grade 6, computer typing can be more successful, when you sit with the correct posture in front of the computer. Improper sitting will cause pain in the hands, neck, back and in other joints.

Placing the Keyboard in the right place

When sitting for typing, it is essential to keep the body right in front of the space bar of the keyboard. So that, it will enable the user to manipulate all the keys in the keyboard more conveniently.

Refrain from keeping the wrist or palm on the table

It is to be noted that while typing on the keyboard, both hands should be raised above the keys of the keyboard. (hands should not touch the keyboard or the table). So that, it will prevent numbness and pain in the fingers. Typing with the habit of resting the palm or wrist on the table may cause prolonged pain or injury in the fingers in the long run.

Pressing the keys softly

Normally it is sufficient to press a key softly to type any character, number or symbol. Pressing a key with force is an unwanted action. By doing so, fingers may experience inconveniences and the keys in the keyboard may warn out sooner as well.

Giving rest to both hands while not engaged in typing

While working on the computer, it is essential to give a rest to both hands in circumstances where you are not engaged in typing. In such occasions, both hands can be kept freely on the table or the lap.

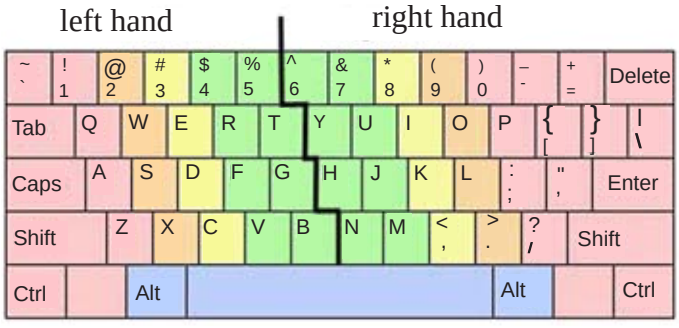
Exercise 4: see Workbook 4.4

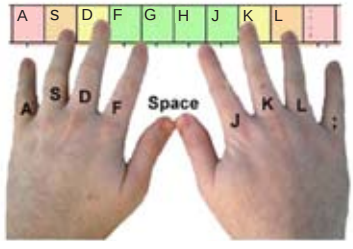
4.5 Let's create a Document using the Keyboard

Before creating a document, one should have a good understanding about how hands should be kept on the keyboard and manipulate keys.

It is essential to follow the measures given below in order to gain correct computer keyboard skills.

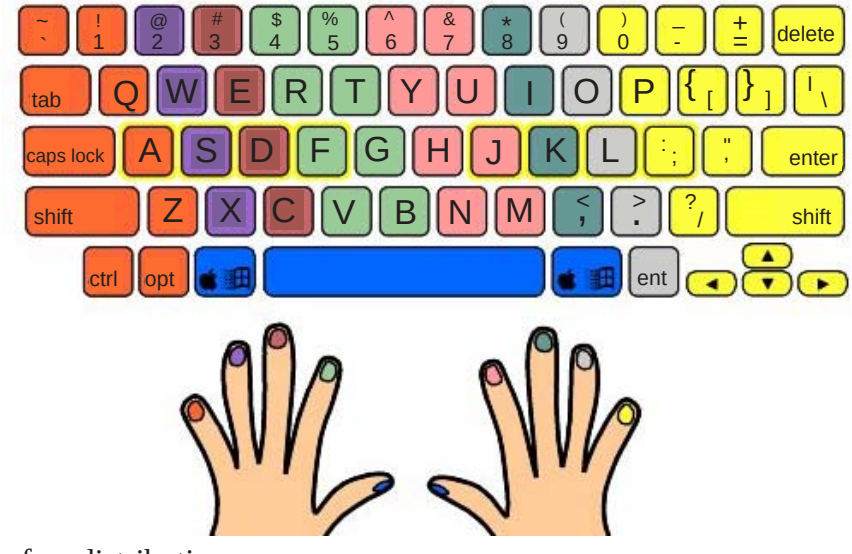
- While starting typing is started, keep the left hand fingers on keys A, S, D and F and right hand fingers on keys J, K, L.





- Use fingers of both hands and always start typing having placed both hands on the correct row of the keyboard.(as shown in the picture)

- Use appropriate keys for the appropriate fingers.



Touch typing

The act of typing quickly and accurately without looking at the keys is called touch typing.

4.6 Use of typing Tutor Software

There are a lot of benefits in learning touch typing. For this, use of a typing tutor software can be shown as the most suitable and the easiest way (method) to learn touch typing.

So, you can search and find several software by browsing the internet.

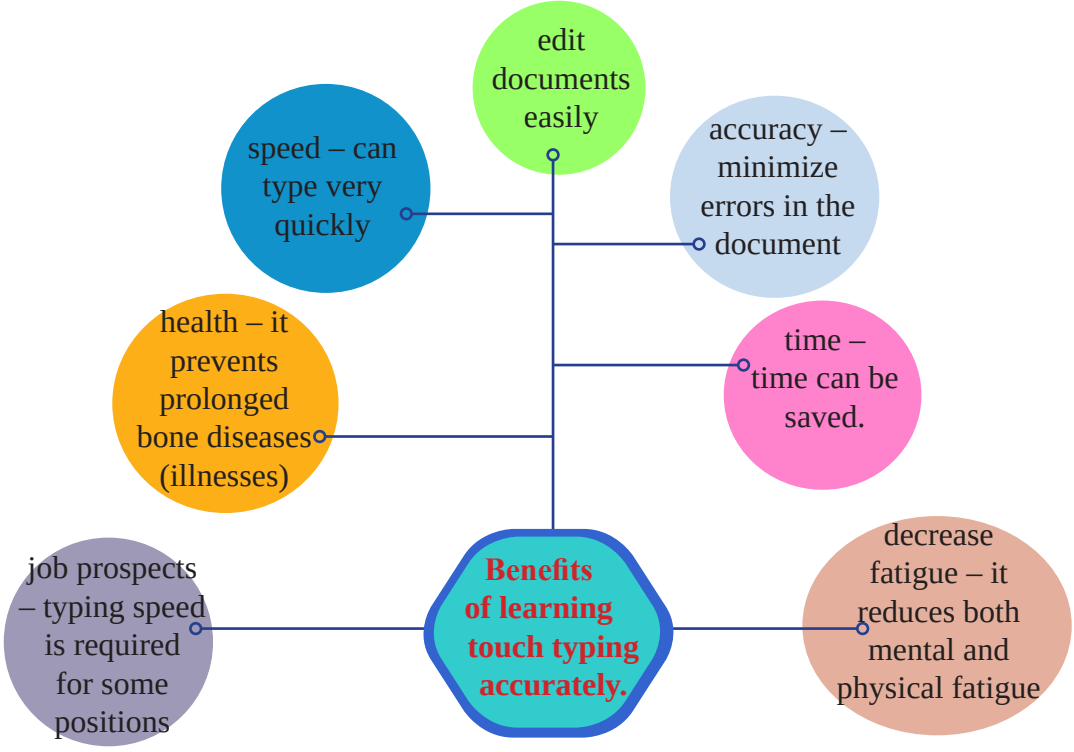
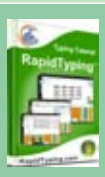


Figure 4.2 Some benefits of learning touch typing accurately

Exercise 5: see Workbook 4.5

Meanwhile, some examples for typing tutor software that can be downloaded freely from the internet and their web addresses (URLs) are shown below.

Software	Downloadable web address
Rapid Typing Tutor 	http://www.rapidtyping.com/downloads.html
TIPP10 	https://www.tipp10.com/en/download/getfile/4/
Typefaster 	http://www.typefastertypingtutor.com/

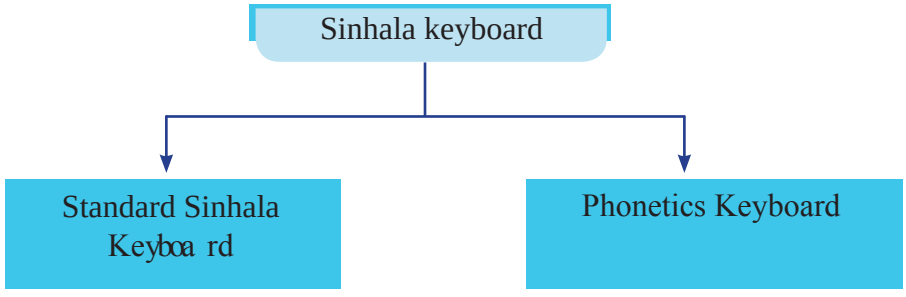
Exercise 6 : see Workbook 4.6

Basically the keyboard has been produced for English language. However, various techniques have been introduced into this keyboard for different nationals to type (in) their own language through this keyboard. In our country, Sinhala and Tamil keyboards are widely used.

Using Sinhala and Tamil Keyboard

Using Sinhala keyboard

Sinhala keyboards can be seen in two types based on the manner of entering Sinhala letters.



Sinhala characters can be entered to the computer both by character keys located in the keyboard and by phonetics keys too.

- **Use of Standard Sinhala Keyboard**

In this model, it is essential to remember the location of keys on the keyboard. This Sinhala keyboard is used (operated) in present computers and other data communication devices as well. This model is used in Unicode system too.

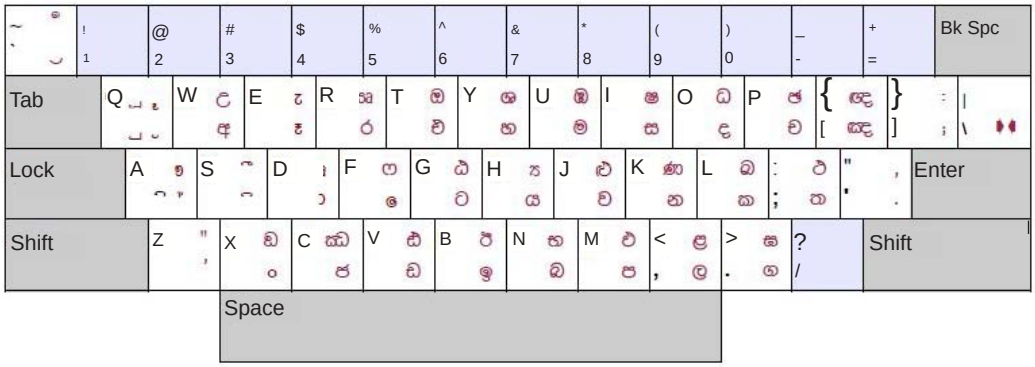


Figure 4.3 – Standard Sinhala Keyboard (Wijesekara Sinhala Keyboard)

- **Phonetics Keyboard**

This is somewhat an easy method and the keyboard can be used according to Sinhala sounds (based on Sinhala sound). Therefore it is not necessary to know the location of the appropriate letters. You can send SMS messages in mobile phone using this method. Therefore, you are already familiar with this method.

Figure 4.4 - Sinhala Phonetics Keyboard

Use of Tamil Keyboard

Unicode keyboard is mostly used when typing in Tamil letters.

Figure 4.5 - Tamil Phonetics Keyboard

To read a letter prepared by using Unicode font, it is not necessary to have installed Unicode font in the computer of the user. However, to read a letter prepared by using a font other than Unicode font, the relevant font should have been installed in the computer of the user (user's computer).

The Unicode font is an open source software. So it can be downloaded freely from the internet.

In addition to Unicode font, several other fonts such as FMBindumathi, FMAbhaya etc.. can be used to type in Sinhala letters while several other fonts such as Bamini, Kalaham etc.., can be used to type in Tamil letters.

Exercise 7 : See Workbook 4.7

Summary

- Creation of letters and documents needed in day to day life easily is called word processing.
- Skill to use the keyboard correctly is essential in word processing through the computer.
- The keyboard that we use normally (day to day) is identified as QWERTY keyboard.
- The QWERTY keyboard can also be used for other languages such as Sinhala and Tamil.
- The Typing Tutor software can be used to practice the use of keyboard correctly.

05 Programme Development

5.1 Decomposing the Problems

A problem can be simple or complex according to its nature. It is rather difficult to perceive and understand a complex problem when compared with a simple problem. It is essential to understand a problem thoroughly before going to solve it. So it will be easier to find a solution to a complex problem after decomposing it into smaller sub-problems.

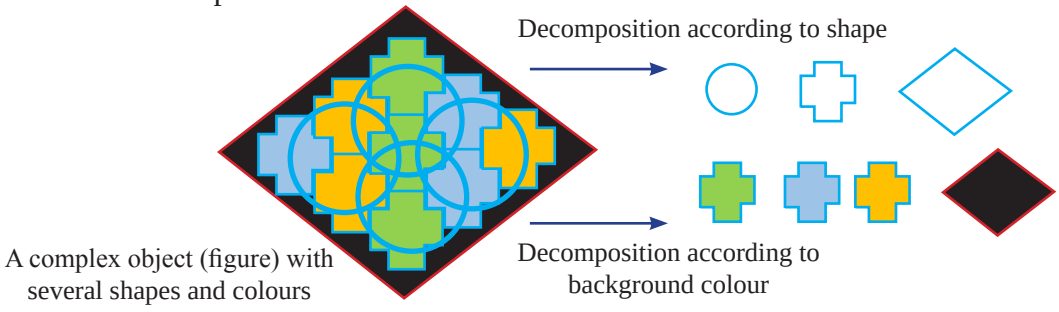
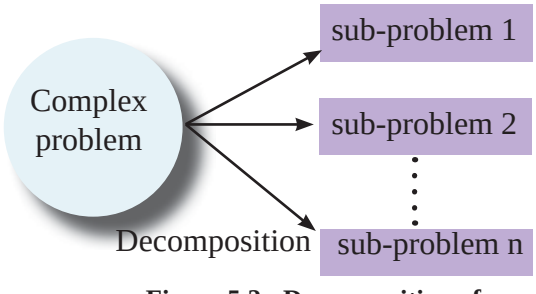


Figure 5.1 - Decomposition of a complex object

Likewise, a complex problem that seems difficult to solve at once can be broken into several smaller sub-problems as much as possible. Then these sub-problems can be solved easily one by one.

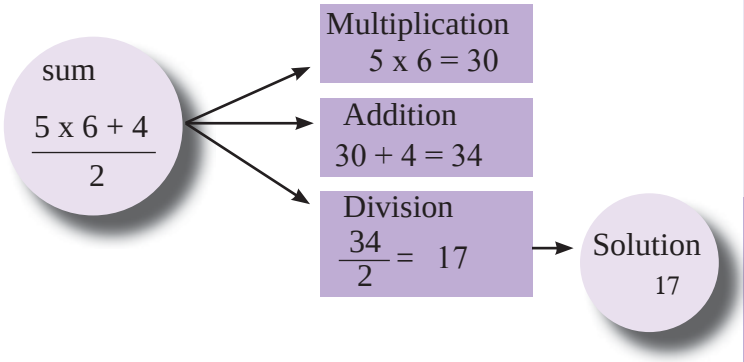


Advantages of decomposing a problems

- Easy to solve
- Easy to understant
- Easy to describe
- Easy to analyze

Figure 5.2 - Decomposition of a complex problem into sub-problems

eg:- In grade o6, you have learnt about the basic mathematical function which include addition, substraction, multiplication and division of a whole number. Additionally in the first term of graded 07, you have learnt about solving sums when more than one mathematical functions are used with a whole number.
Consider the following sum (Refer Figure 5.3).



Since it is hard and complicated to solve this sum at once (in one step), it would be simple and easy to find a solution after decomposing the sum into three sub-problems as multiplication, addition and division involved in the sum. The final solution can be reached easily by logically integrating the answers obtained in each sub-problem.

Figure 5.3 - Breaking a mathematical sum into sub-problems

Activity 1 : See Workbook 5.1

5.2 Use of Flow Chart to represent Algorithm

Symbols in flow chart to represent algorithm have been explained in grade six. An algorithm may include one or more control structures out of three. Three types of control structures are shown below.

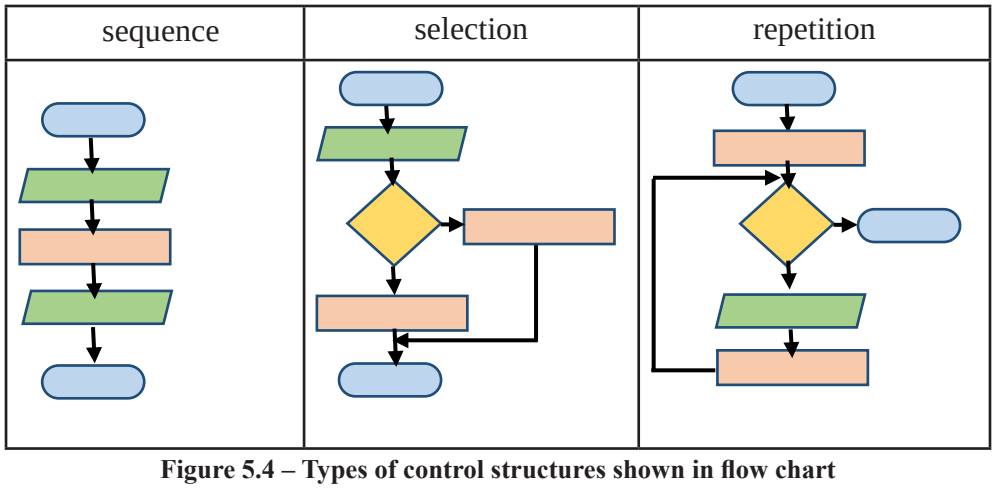


Figure 5.4 – Types of control structures shown in flow chart

Activity 2 : See Workbook 5.2

5.2.1 Sequence

Execution of instructions in an algorithm sequentially from top to the bottom is called sequence. Let's see how it is represented in a flow chart.

e.g. : Covering a textbook

Let's represent covering a textbook in a flow chart.

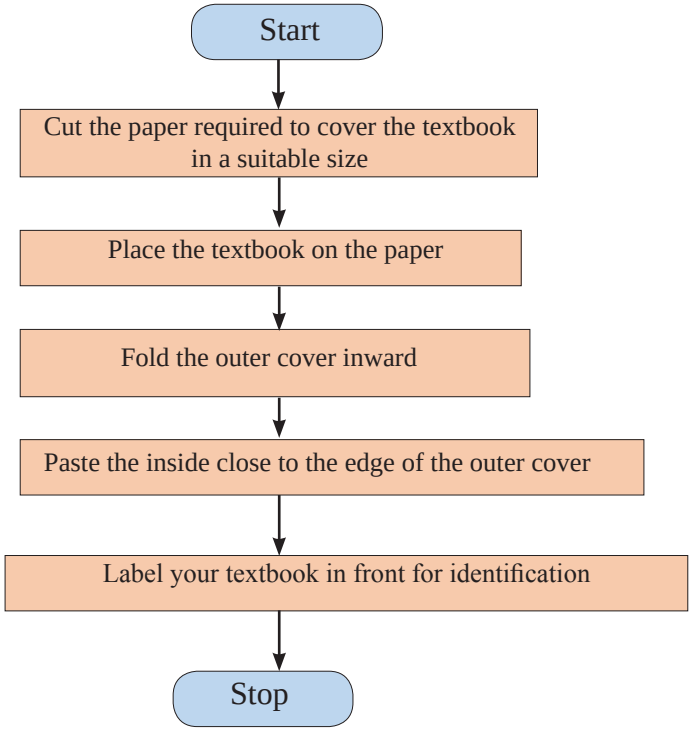
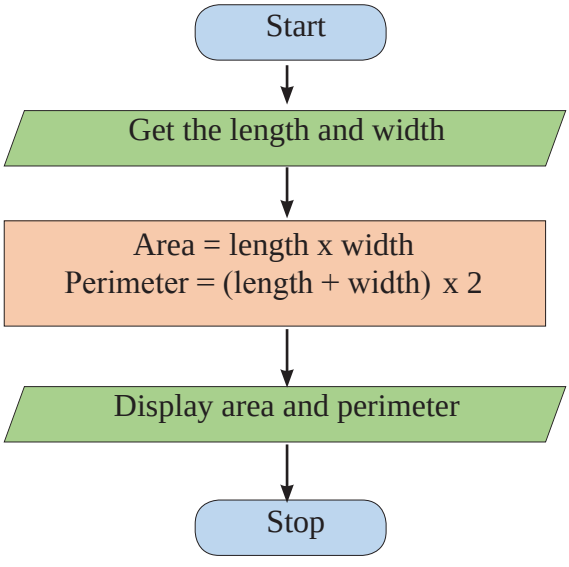
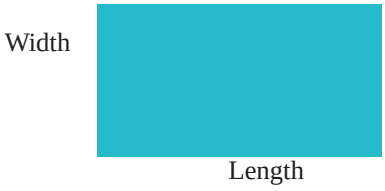


Figure 5.5 - Flow chart: Covering a textbook

Activity 3 : See Workbook 5.3

e.g. 2 :Finding the area and perimeter of a rectangle





Problem Analysis
Input : length and width
Process :
Perimeter = (length + width) x 2
Area = length x width
Output : area, perimeter

Figure 5.6 – Flow chart: Finding area and perimeter of a rectangle

Activity 4 : See Workbook 5.4

5.2.2 Selection

Here it is expected to make a making decision on which step to follow depending on the condition given by the algorithm. In a selection, the condition is checked first and the flow direction is chosen based on whether the condition is true or false.

For example, let's consider an instance where a ceiling fan is operated. When the switch is on, the ceiling fan operates if there is power. If there is no power, the ceiling fan does not operate.

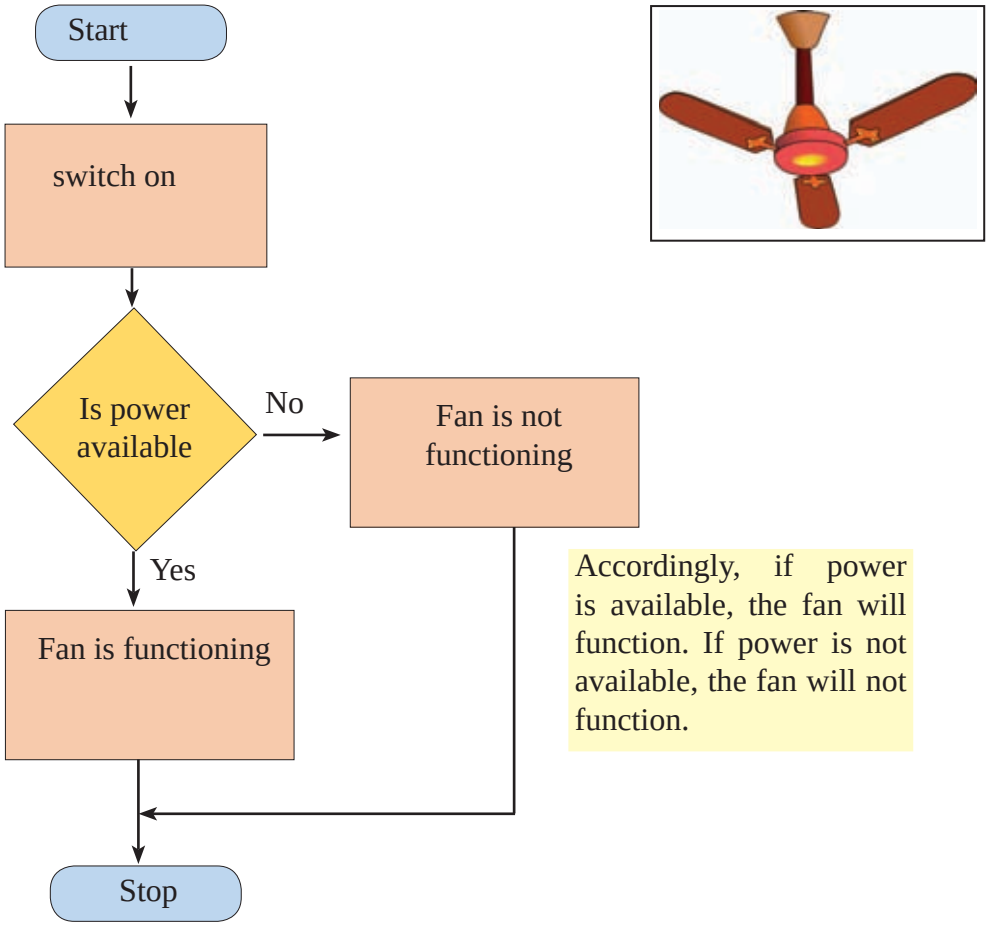


Figure 5.7 - Flow chart funtioning of a font

5.2.3 Repetition

Execution of an instruction or several instructions in an algorithm repeatedly until a condition is satisfied is called repetition. A repetition will take place depending on whether a condition is satisfied or not satisfied. For example, natural water cycle is a process that takes place repeatedly.

As an example, do you know that since your childhood, you used to save moneyby using a till to put money? The one who is used to save money in a till, will always put money (again and again) repeatedly until the till fills.So, here the process of putting money is repeated until the condition that is 'till becomes full' is satisfied.

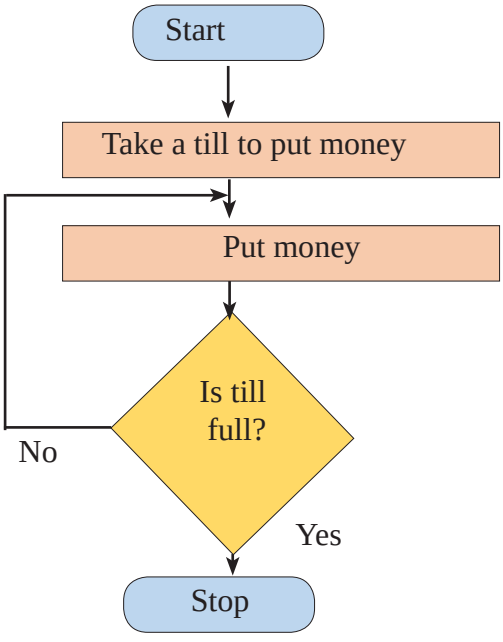


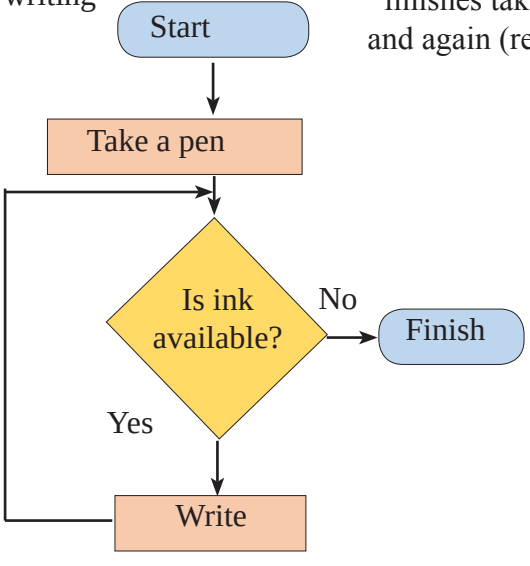
Figure 5.8 - Flow chart: Putting money into a till

Checking of condition for repetition can take place in two ways.
1. Check the condition before repetion starts.
2. Check the condition after functioning once.

Checking whether ink is available before writing

act of writing until ink finishes takes place again and again (repeated)

check whether ink is finished every time after writing



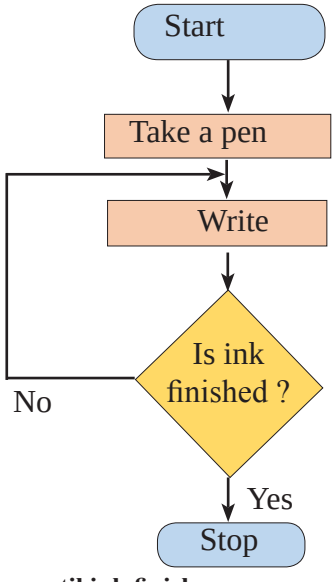
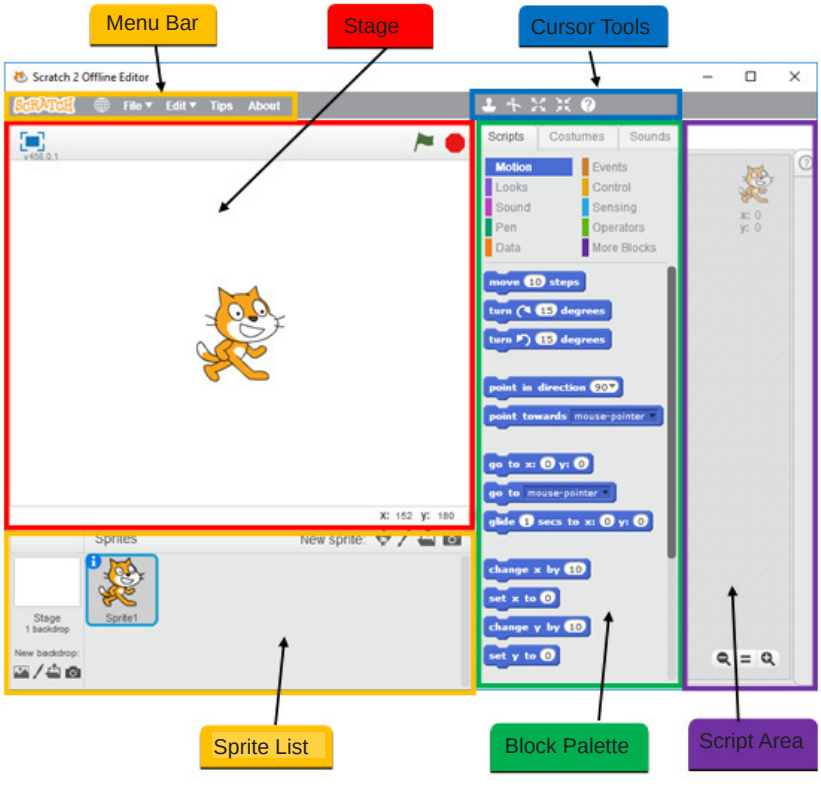


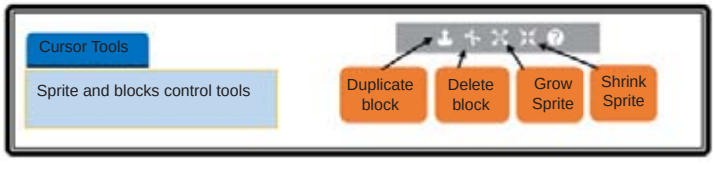
Figure 5.9 - Flow chart: Writing with a pen until ink finishes

5.3 Introduction to Scratch Programming and Programme Development

Scratch which is a visual programme development software is an interactive, attractive and a simple programme with command blocks. This is a Free and Open Source Software (FOSS) and therefore it can be downloaded freely from the following website. http://www.scratch.mit.edu

5.3.1 Scratch 2.0 introducing Interface with Visual Development Environment



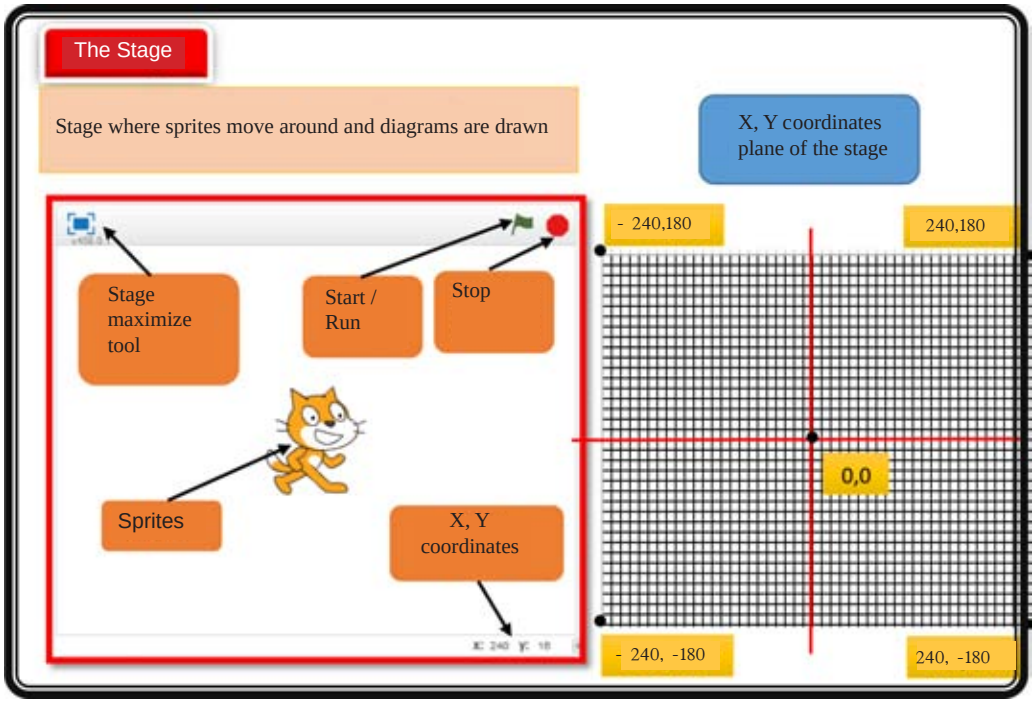


Sprite and blocks control tools

Note: All these interfaces are in Scratch 2.0 (version 2).

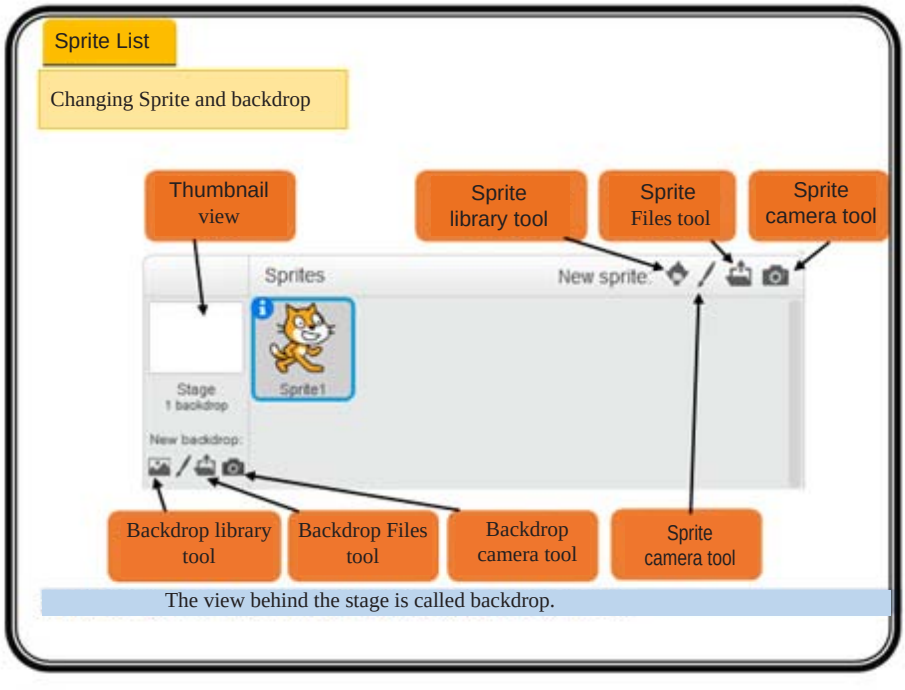
The Stage

Stage where sprites move around and diagrams are drawn



Sprite List

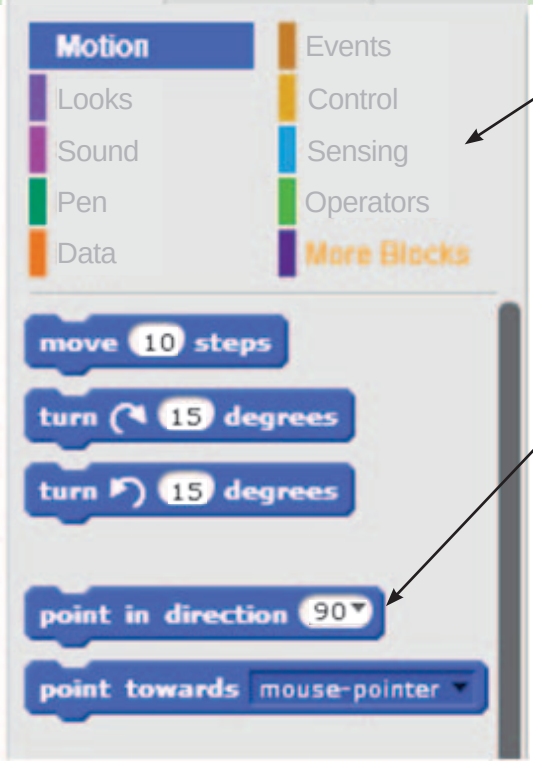
Changing Sprite and backdrop



The view behind the stage is called backdrop.

Blocks palette

Block and the classified tab within it



Blocks Tabs

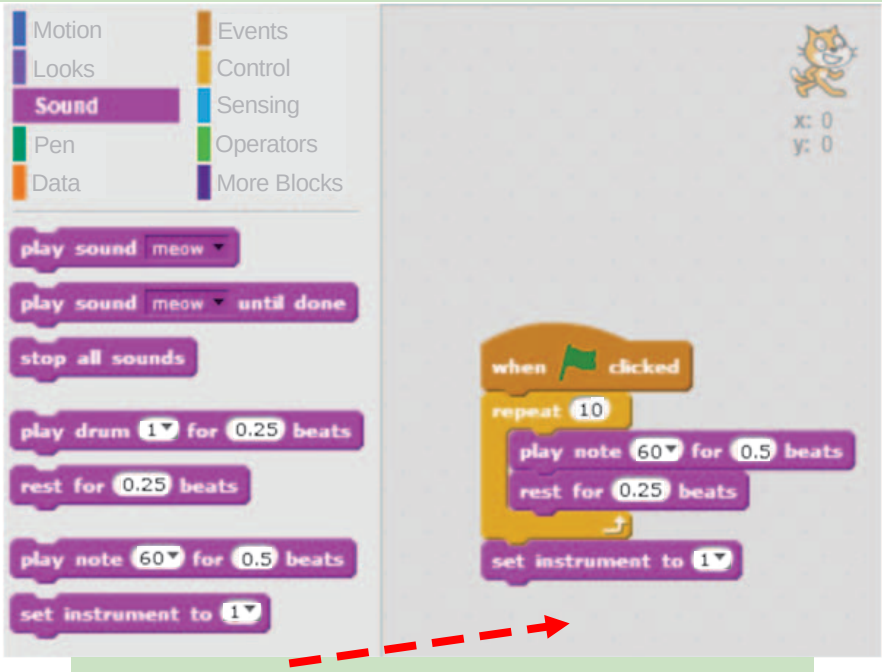
The blocks categories are all colour coded and the relevant block is displayed under the relevant tab.

Blocks

A list of blocks that shows the action on the stage is displayed.

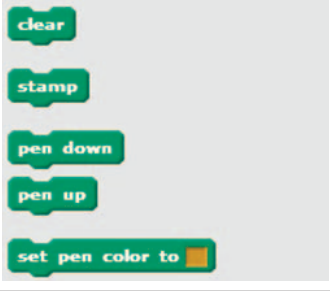
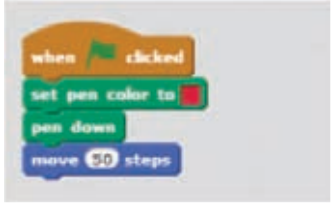
Script Area

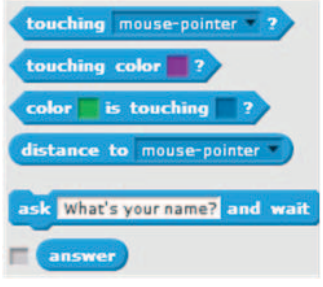
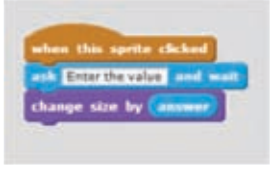
This is the area where you apply blocks and create (develop) programmes.



Creating a programme by dragging a block onto the ScriptsArea

Block classification	Block	Example
Motion Includes command blocks pertaining to move the sprite on the stage.		 Sprite moves 100 steps from the position 0, 0
Looks Includes command blocks pertaining to communication among the Sprites.		 Sprite, after saying "Hello!, Can you win" thinks "No, I'm the winner"

Sound Includes musical instruments and basic notes to create sound and sound patterns		 When any key pressed drum sound is played and then “s” note is played
Pen Includes colour and tools needed to draw lines and various shapes on the stage.		 draws a line 50 units long in red colour
Data Includes command block pertaining to make a variable and assign value.		 Count variable value is changed by 1 and then the value is shown
Events Give instructions pertaining to the execution (running) of all other blocks		 When run tool (green flag) clicked, the total of variables a and b is shown

Control Includes command blocks with selection and repetition to control execution of other blocks(scripts)		 According to the input, only one output out of the two is displayed.
Sensing Receive input		 size of the sprite changes
Operators handles mathematical operations		 display the total of numbers from 1 to 10

Activity 5 : See Workbook 5.5

5.3.2 Programs Development of Programmes

Follow the instructions given bellow to create a programme using scratch

- Run scratch software
- Double click on scratch icon

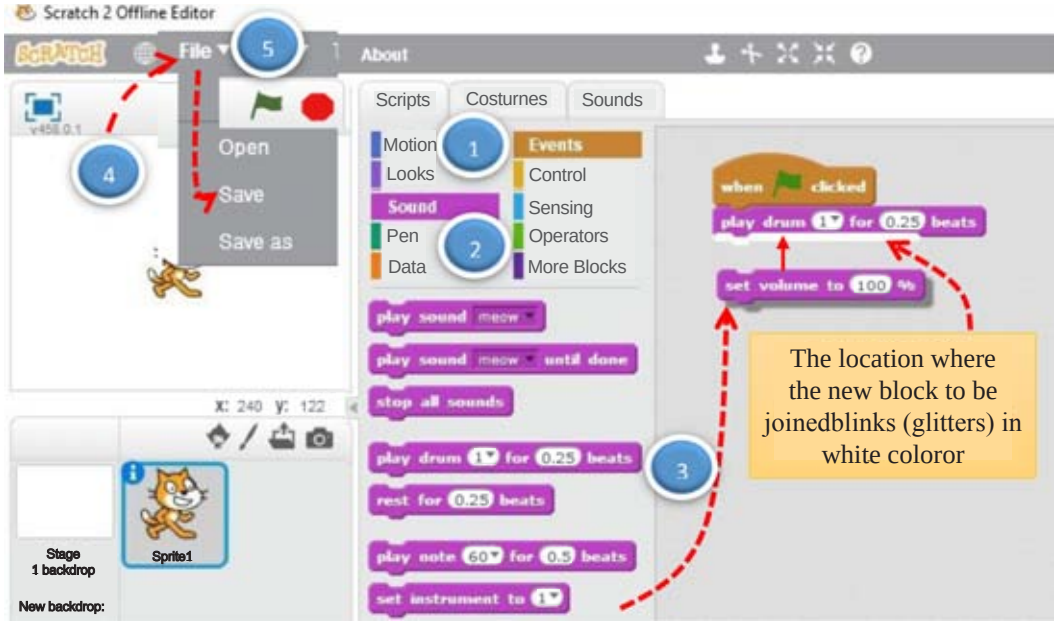
- Select types of command blocks under Script Tab
- Click on script tab and select block types

- Drag the command block and drop on Script Area
- Drag the blocks to script area

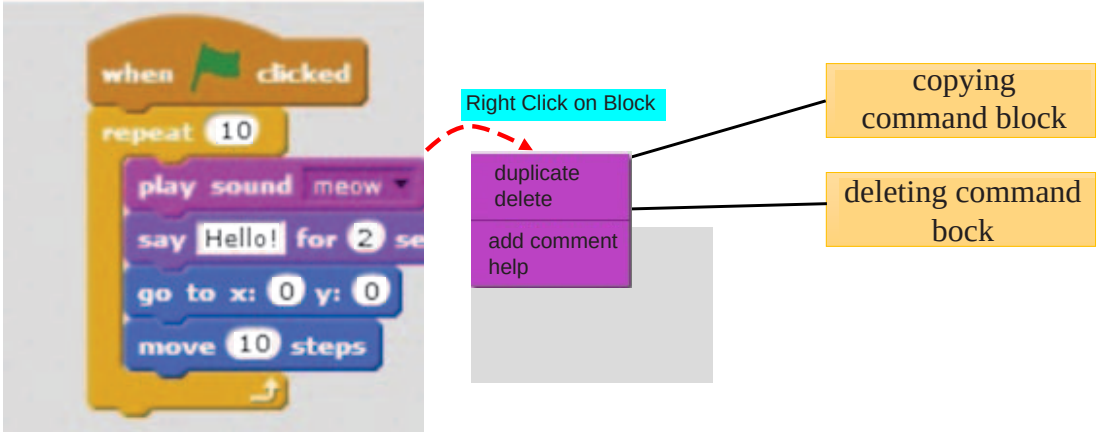
- Develop the programme

- Save as a file

- Run the programme



Managing Command Control Blocks



5.3.3 Development of programme with a Sequence

1. Playing basic notes with piano

Connect the control blocks (scripts) shown below sequentially. Then change the values of the control blocks as shown in the figure below. Run the programme and check the voice.

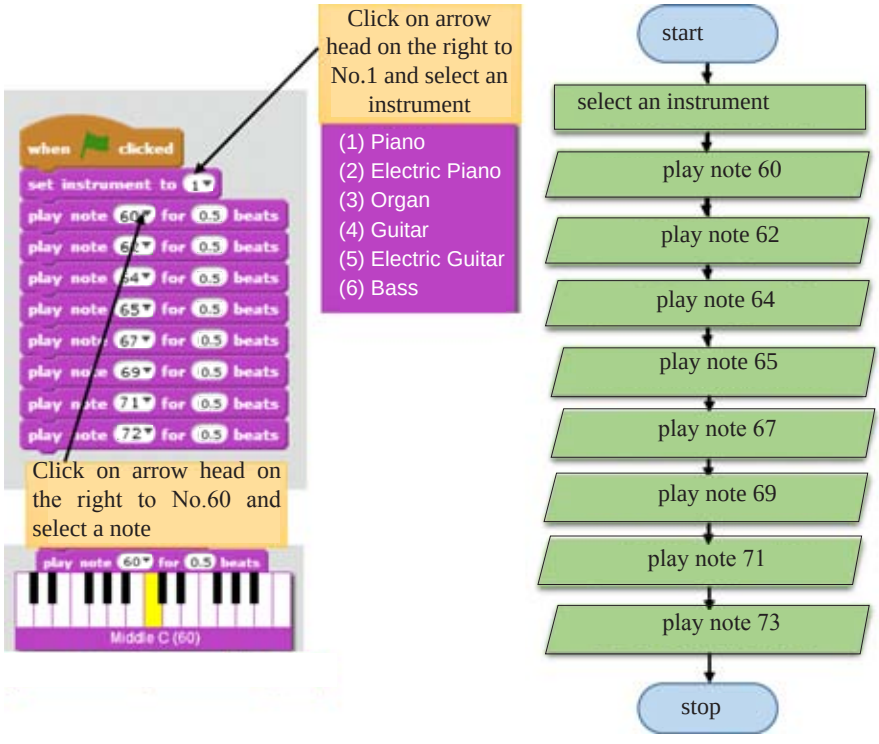
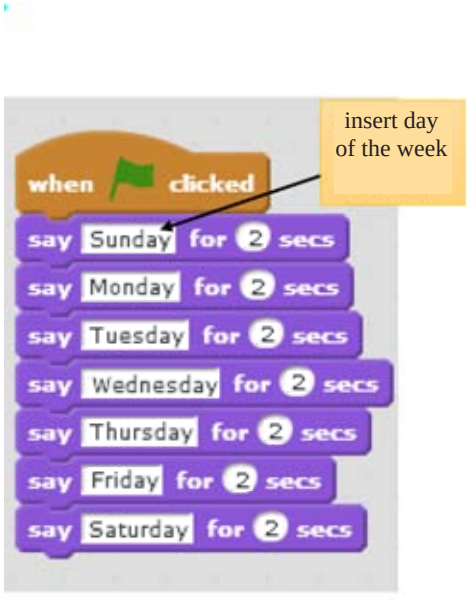
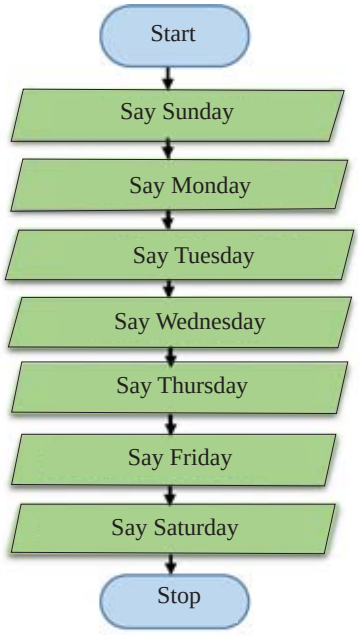


Figure 5.10 – Flow chart: Playing note

Activity 6 : See Workbook 5.6

2. Expressing days of the week in order by Sprite

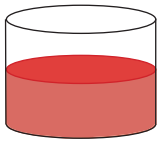




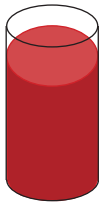
5.4 Use of a variable

In programming, variables are used to store a value in memory temporarily. Let's study the following activity to understand the nature of a variable.

Let's consider a situation where two types of coloured liquid have been poured into two separate glass vessels.



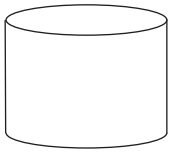
A vessel



B vessel

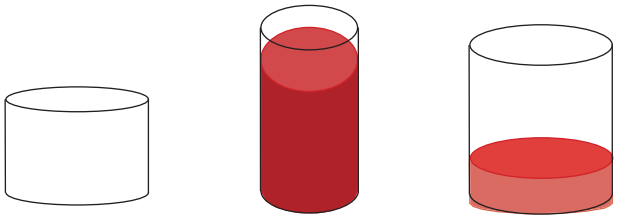
Now let's consider changing liquid in A vessel into B vessel and liquid in B vessel into A vessel.

In this way, in order to change the liquid from one vessel to the other, it is necessary to have an extra vessel.
Let's name that vessel as C vessel.



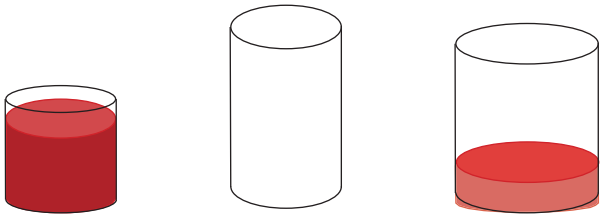
C vessel

step 1 : Changing liquid in A vessel to C vessel



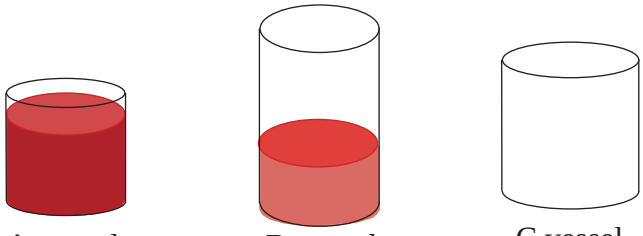
A vessel B vessel C vessel

step 2 : Changing liquid in B vessel to A vessel



A vessel B vessel C vessel

step 3 : Changing liquid in C vessel to B vessel



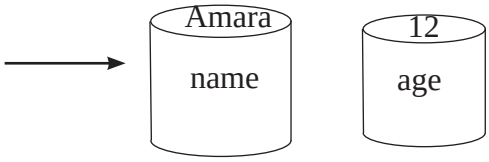
A vessel B vessel C vessel

As a vessel can store liquid, so a variable can store a value. The above vessels named as A, B and C can be considered as variables and the liquid poured into them can be considered as values of the variables.

Assign Values to Variables

When assigning values to variables, variable name is written on the left to the equal sign and the value is written on the right to the equal sign.

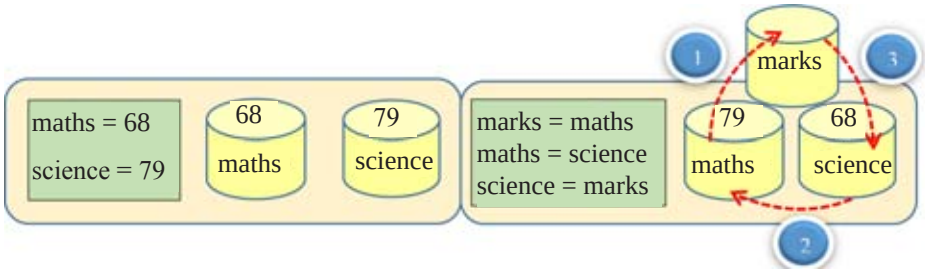
e.g. name = Amara
age = 12



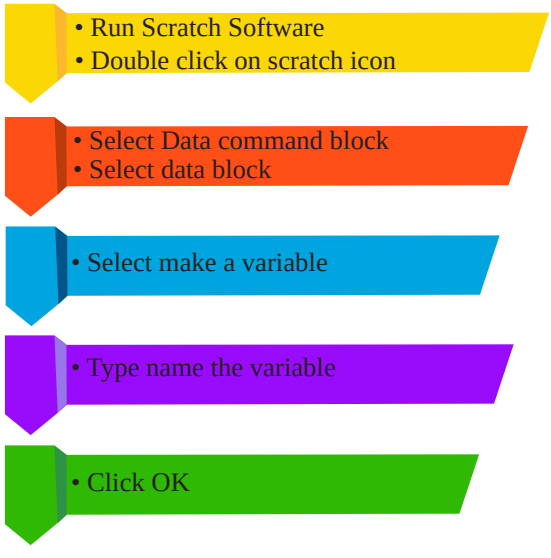
Changing values of variables

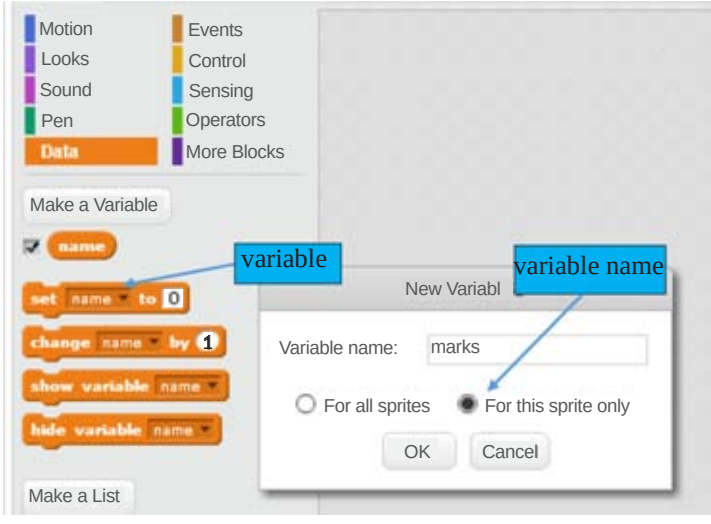
e.g.

Let's change the values of variables maths and science.



Building variable in scratch





assign value to a variable

(assign marks 67 to the variable marks)

change value of a variable

(change the value of the variable marks by 10)

5.4.1 Develop programme with variables

1. Multiplication of two numbers

Create two variables (n1, n2) to store values of two numbers and another variable to store the multipication of the two numbers.Then join the control blocks shown below one by one sequentially in the given order. Change the value of control blocks as shown.

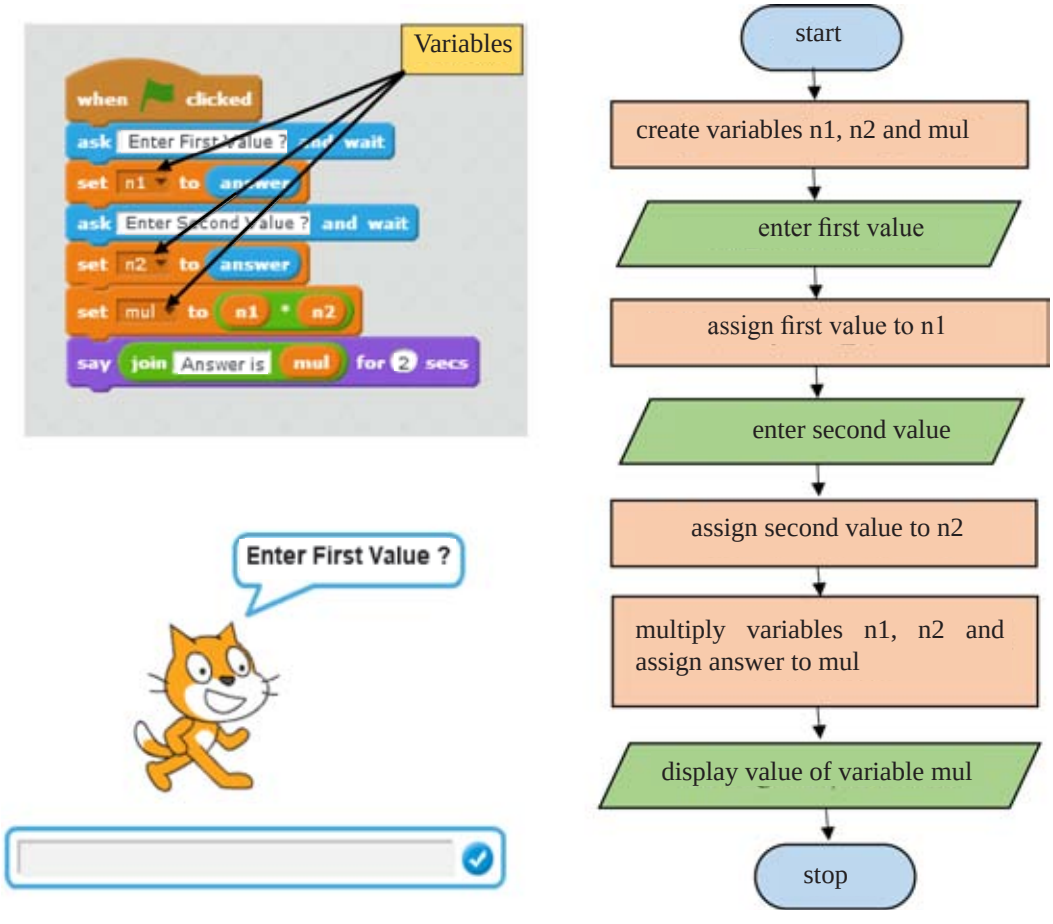


Figure 6.12 – Flow chart: Multiplication of two numbers

Activity 7 : See Workbook 5.7

2. Find Perimeter and Area of a Rectangle

The length and width of a rectangle is needed to find the perimeter and the area of that rectangle. Accordingly, four variables should be used in order to develop this programme. The length, width, perimeter and the area are shown as variables L, W, perimeter and area respectively.

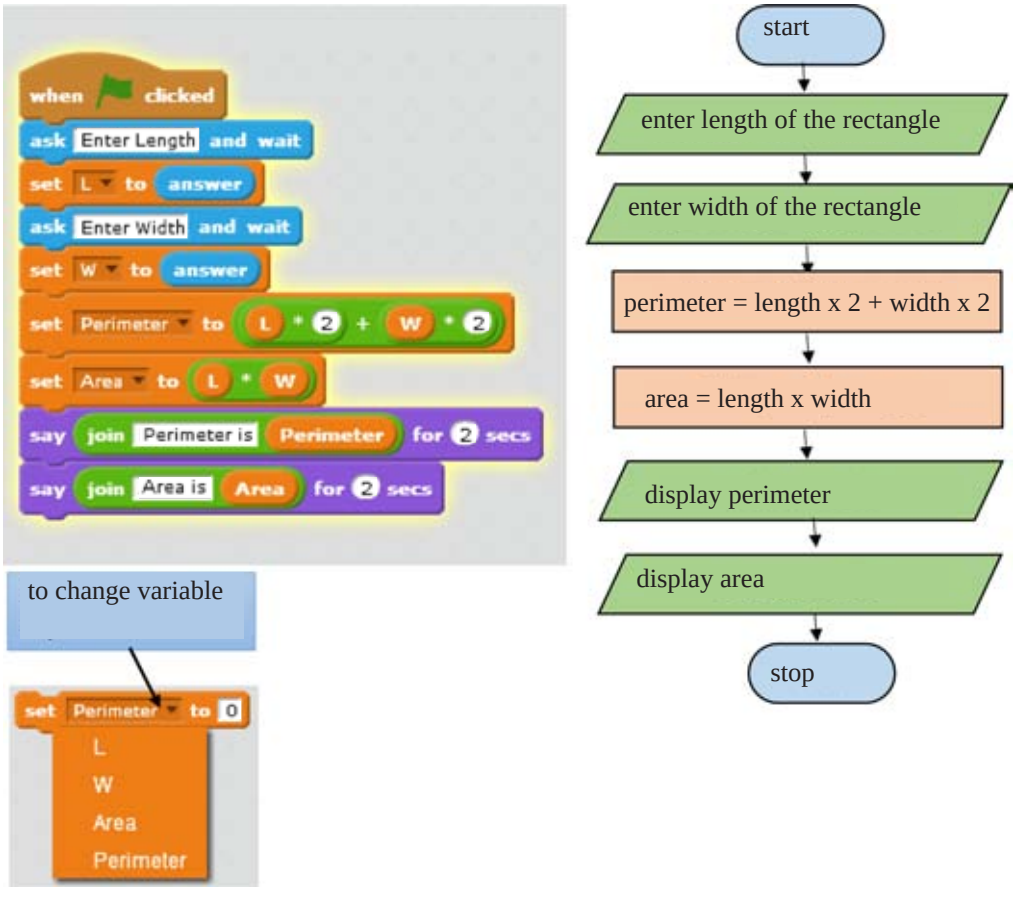


Figure 5.13 – Flow chart: Area and perimeter of a rectangle

3. Change the size of the Sprite from 10 to 100 at random

Develop the following programme to randomly change the normal size of the Sprite that we see. A value randomly chosen from one to ten is stored in the variable X. The size of the Sprite changes up to the value obtained by multiplying the value of variable X by 10. In addition, the colour too changes in proportion to the value of variable X.

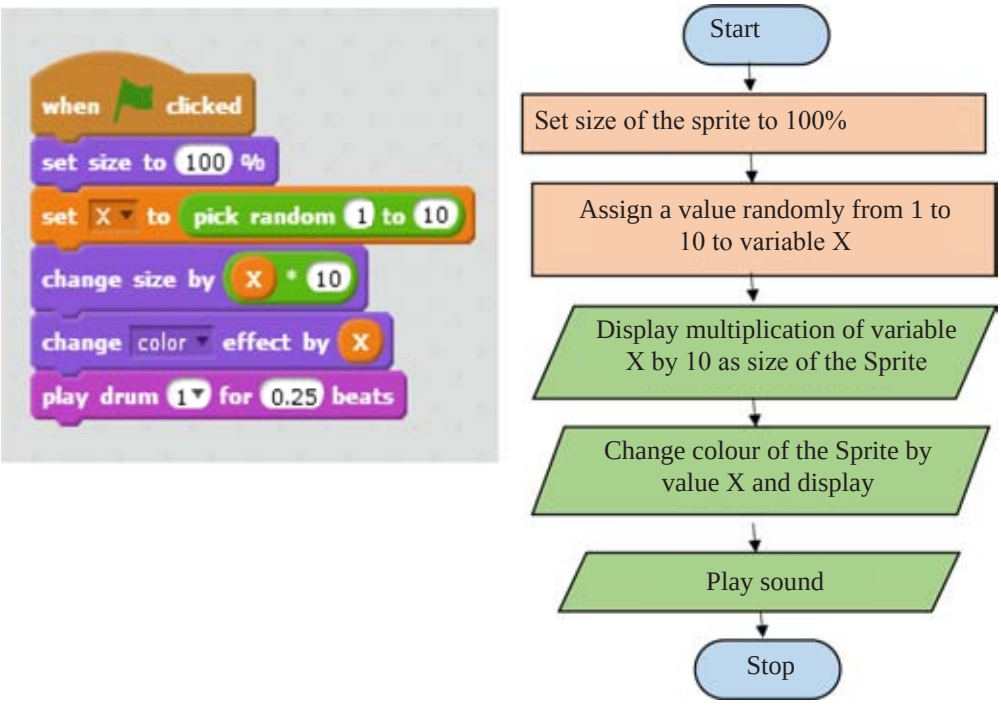


Figure 5.14 - Flowchart: Changing size of the Sprite

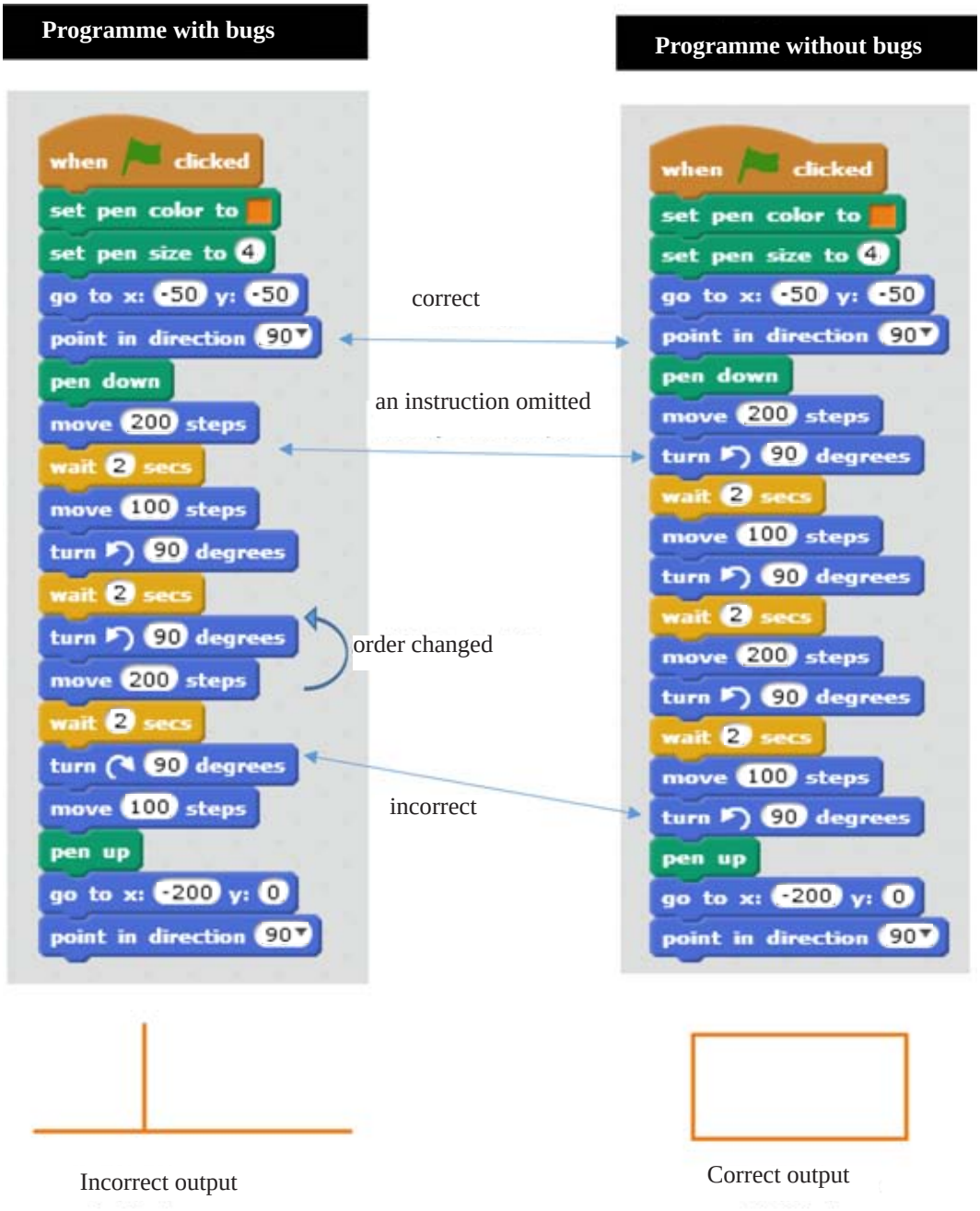
5.4.2 Bugs

Bugs may occur when developing a programme. Errors in a programme are called bugs, while the elimination of such bugs is called debug. In such a situation, unexpected problems are to be faced when a program with bugs run. Programmes with bugs may not run properly. Therefore before running a programme, bugs that may occur in that program should be eliminated.

Elimination of Bugs

Bugs may occur in such situations as change of order in the instructions (block), omission of instructions (block) or non-mentioning of correct variables and their values. Bugs in a programme can be eliminated by correcting bugs in the instructions(block) or arranging the order of the instructions (block) sequentially.

Let's compare the following programme with bugs and the programme without bugs developed to draw a rectangle with length and width 200 and 100 respectively.

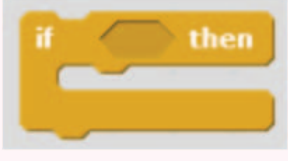


The above programme on the left has been developed to draw a rectangle. However the expected output cannot be achieved due to bugs in the programme. Therefore there is a possibility to get an erroneous output. It is proved by the programme on the right that a correct output can be achieved after eliminating those bugs.

A program with bugs may not run properly. After eliminating the bugs, the programme can run properly.

Summary

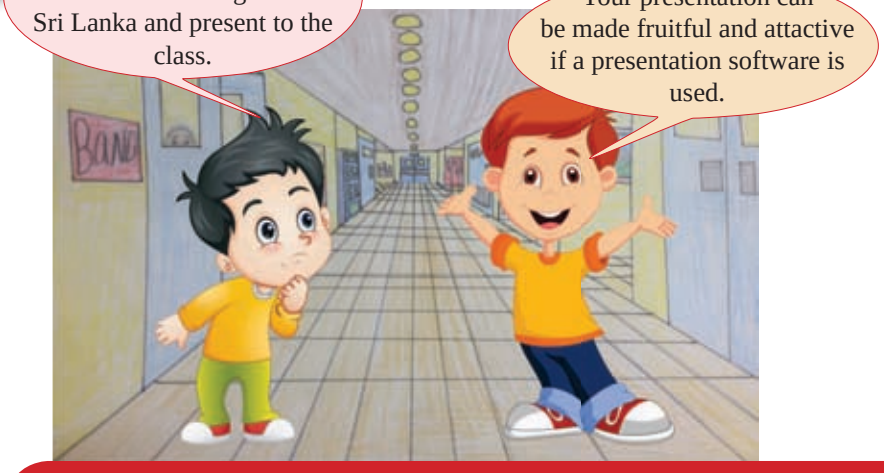
- Program development can be made easy by decomposing a complex problem
- There are three control structures used to develop a programme. They are sequence, selection and repetition.
- Execution of instructions (sequentially) step by step in an algorithm is called sequence.
- Making decision as to which step to follow based on the condition given by the algorithm is called selection.
- Flow direction in a flow chart is determined based on the condition of the flow chart.
- Scratch open source programme can be used for visual programme development.
- Command blocks are used in the development of Scratch program
- Following command blocks can be used to display the decision
  - The block to be used to show steps to follow only if the condition becomes true



  - The block to be used to show steps to follow if the condition becomes true or not

- In programming, variable is used to store value in memory.
- Error in a programme is called bug.
- Elimination of bug in a programme is called debug.

06 Presentation Software



6.1 Let's learn about Presentation

Presentation is a method used to communicate information and ideas to a certain person or a group. There is more liveliness in this method than other methods because a quick interaction between the specker and speetators takes place.

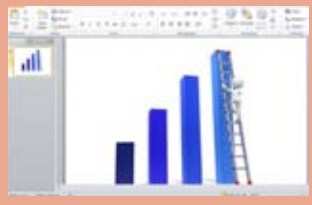
Electronic Presentation

Electronic presentation is a tool used to make a presentation attractive and fruitful.

Electronic Presentation like a book

Activity 1 : See Workbook 6.1

- A book is composed of pages.
- Pages can be turned.
- Words, pictures are included in the book.
- Videos, songs, links cannot be included in books. Liveliness of them cannot be included in books.
- After a book is printed, changing the content is difficult.



- Presentation is composed of slides.
- Can move from slide to slide.
- Words, pictures, etc. are included in slides.
- Videos, songs, links can be included in a presentation. Liveliness of them can be included.
- Even after presenting several times, content of a presentation can be changed again and again.

Examples for Presention Software

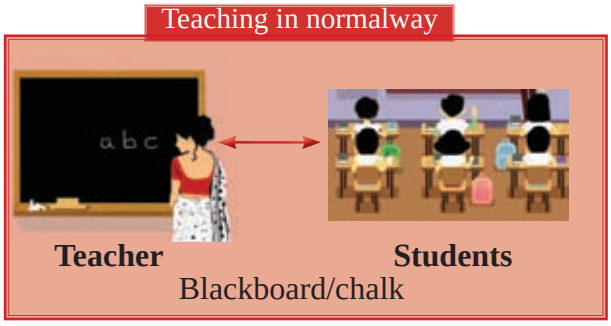
Microsoft Powerpoint

Apple Keynote

OpenOffice Impress

Corel Presentations

There are many advantages in an electronic presentation



- Should use so many words.
- More effort is needed to expain facts.
- More chances to change concentration.
- More effort should be made to acquire information.

- No need of using so many words.
- Less effort to explain facts.
- Less chance to chang the concentration.
- Less effort to acquire facts.

6.1.1 Let's design a Presentation

In order to design a new presentation, presentaion software in the computer should be opened.

Design a presentation using a blank presentation

When you open the electronic presentation software in the school computer, you will get a blank presentation as show in Figure 6.1.

Figure 6.1- **A blank presentation**

When you click on that blank presentation, you will get blank slides which you need to prepare the presentation.

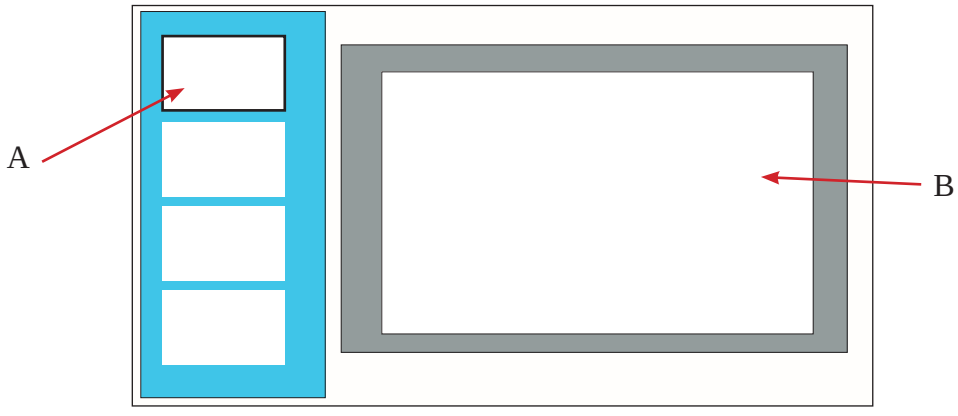


Figure 6.2 - **A Presentation window**

The Slide in Figure 6.2 A indicates a slide related to the content which is open on the slide pane (In Figure 6.2 B indicates a slide pane) is highlighted, Eg: The content of the slide indicated by A in Figure 6.2 is displayed on slide pane.

Start designing presentations using presentation models provided by Presentation Software

You will get blank slide when you open the presentation software, to be designed. Or if you wish, you can select from pre-designed slide templates which have being saved. They are designed with various shapes, colours, designs.

Figure 6.3 - Some presentation templates

If the slide matches your need, one of the slides can be selected.

After opening a presentation, it appeas as shown in Figure 6.4.

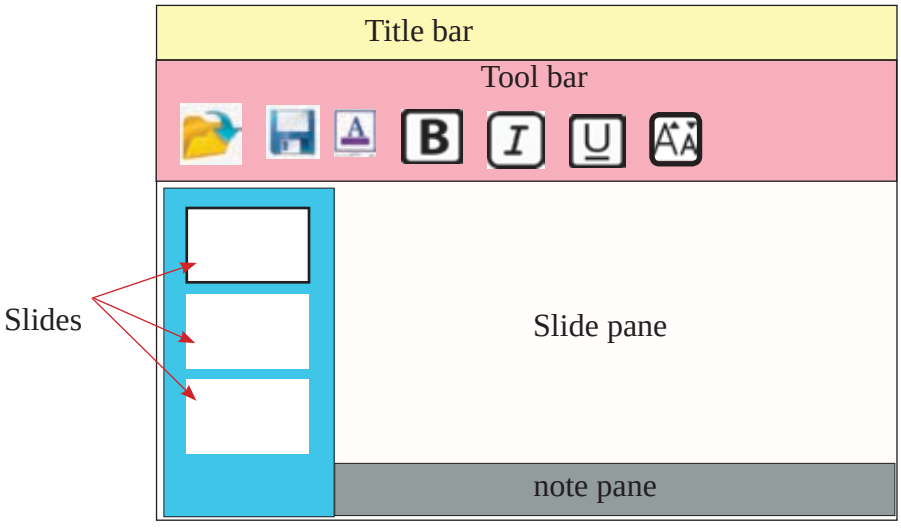
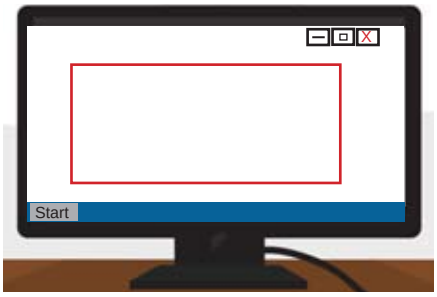


Figure 6.4 - Basic features of a Presentation window

Your presentaion can be prepared using tools in the tools bar. The prepared pesentation can be saved in any place for reuse when needed.

Activity 2 : See Workbook 6.2

6.1.2 Closing Presentations



To close a presentation, the mark X which appears on the right hand side should be clicked.

If the pesentation was not saved, a dialoge box relevant to save it will open.

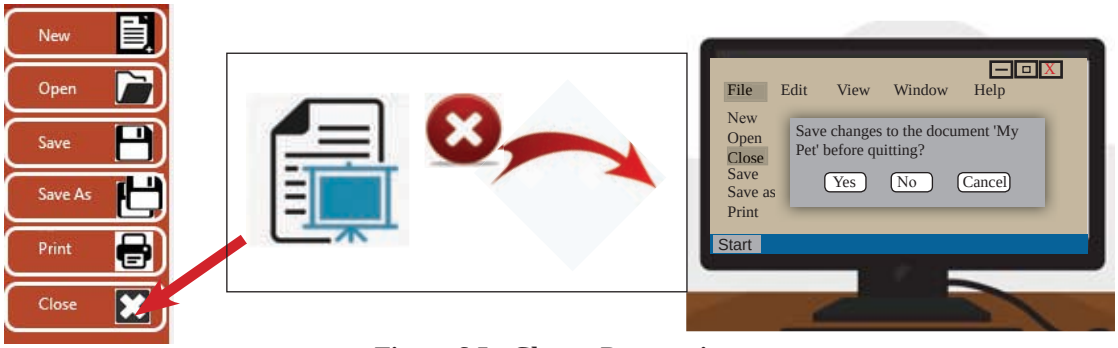


Figure 6.5 - Close a Presentaion

If you want to save the presentation select Yes command. If not, select No command.

Activity 3: See Workbook 6.3

6.1.3 Saving a Designed Presentation

After designing a presentation, it should be saved in the computer for late use.

Figure 6.6 - Save a Presentation

It is good to use a name of your own to save it rather than using a common name given by the presentation software. It helps to find it easily among the other files.

Activity 4: See 6.4 Workbook

6.1.4 Opening a Saved Presentation

There are several ways to follow in opening a presentation.

- Select the name of the presentation using presentation software.
- Click twice on the presentation file.

Figure 6.7 - Open an existing Presentation

Activity 5: See Workbook 6.5

6.2 Let's add New Slides to a Presentation

There are several slides which can be used in preparing a presentation.

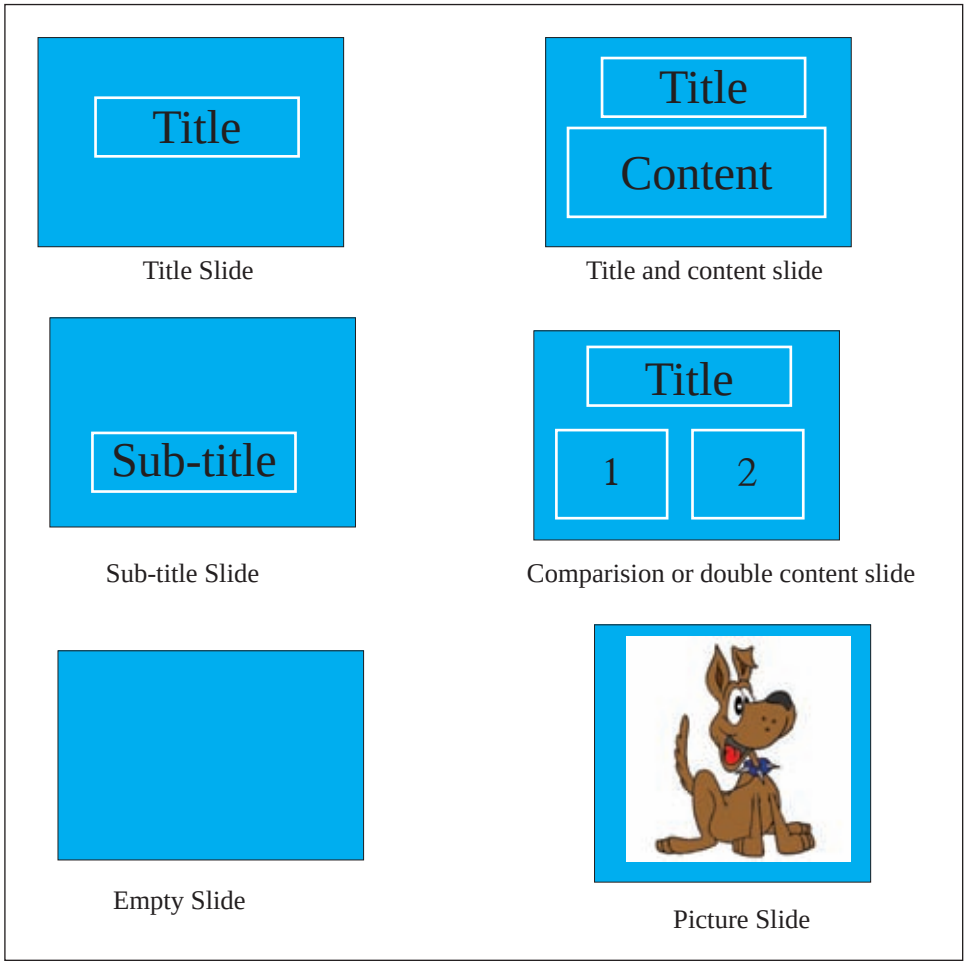


Figure 6.8 - **Examples for types of slide**

In addition to these, different slides can be used using a blank slide according to the need.

Activity 6 : See Workbook 6.6

6.3 Designing a Slide

Understanding about how to insert texts and pictures to a slide, how to draw sketches using shapes and add multimedia and tables to a slide is needed to design a slide.

6.3.1 Including Words and Word Art

There is a sepecific place in a slide to include words in a slide. It is shown as dotted lined boxes on a slide.

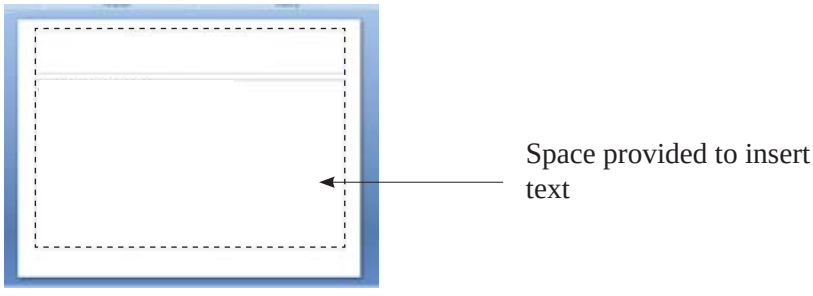


Figure 6.9 - **Space Provided to insert text**

Following tools should be used to prepare letters as needed.

Change the font colour	
Size of the font	
Bold the font	
Italicize the font	
Underline	

Activity 7 : See Workbook 6.7

6.3.2 Inserting Pictures to a Slide

Presentation software facilitates inserting pictures to a slide.

Figure 6.10 - **Insert pictures to a slide**

There are two ways to insert pictures.

One way is to copy a saved picture and paste it on the slide. The other way is using clip art provided by presentation software.

Clip Art is a type of pre-designed images

Activity 8 : See Workbook 6.8

6.3.3 Inserting Shapes

We can insert shapes like circles, squares, as well as triangles lines, arrows, shapes for flow charts and stars in to presentation slides.

Figure 6.11 - **Inserting shapes to a slide**

Activity 9 : See 6.9 in Workbook

6.3.4 Inserting Multimedia to a Slide

Video and audios can be inserted to a slide. It makes the presentation more interesting rather than inserting pictures.

Inserting saved audios in the computer is allowed Some presentation software allows to record audios at the time it is being designed. There are persentation software which provide library facilites with pre-recorded sounds.

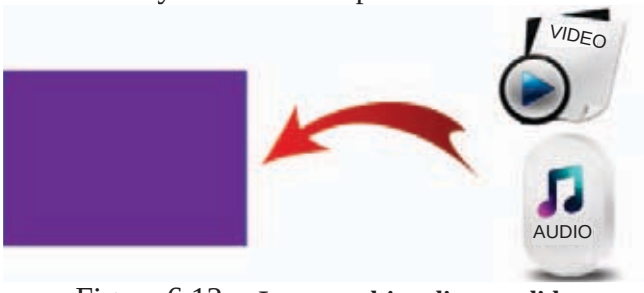


Figure 6.12 - **Insert multimedia to a slide**

Activity 10 : See Workbook 6.10

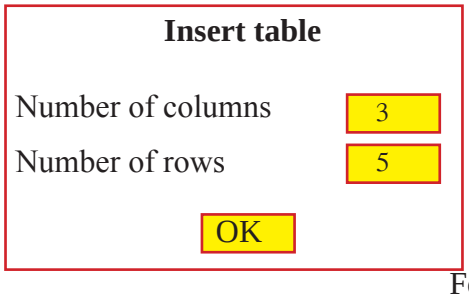
6.3.5 Inserting Tables in to a Slide

Table designing tools are provided in presentation software.

Tables drawn in Ms words or Ms excel can be inserted in presentation slides.

Figure 6.13 - **Inserting tables in a slide**

Table can be drawn giving the number of rows and columns needed. Even after designing changes can be done.



Activity 11 : See Workbook 6.11

6.4 Using Slide Designs

Slide designs are given in order to design the background of slides colourful and attractive. When slide designs are used, it is possible to change the size of the slide to fit to the screen or to standard sizes to suit the screen size.

Figure 6.14 - **Several Slide designs**

Background and colour of letters should match. It is better if the font or the content can be highlighted with a background. In slide designs font colour and backgrounds are suitably designed. There fore, by using slide designs in a presentation no extra time is wasted to match font colour and background.

Activity 12 : See Workbook 6.12

6.5 Silde Transition

Slide transition can be used to move from slide to slide. The objective of this is to make it attractive. But if it is desigad in a way which takes more time, it would be tiresome for the audience.

There are methods to control speed, select slide transition type and making selected sounds in transition in presentation software.

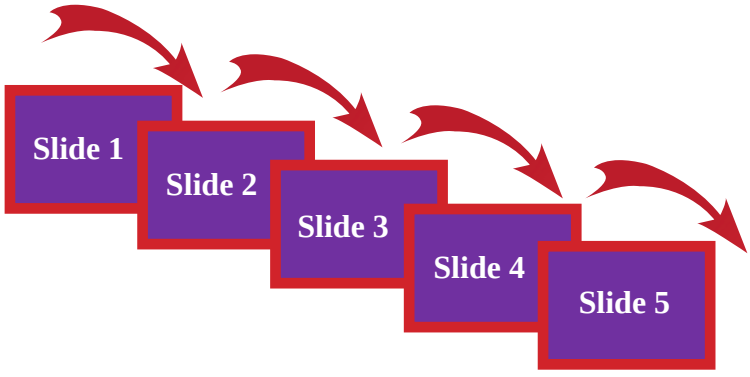


Figure 6.15 - **Slide transition**

Activity 13 : See Workbook 6.13

6.6 Deleting, Coping, Moving and Hiding of Slides

In order to delete, copy, move or hide, a slide the particular slide should be selected. Using a suitable Slide view provided by the presention software to select slides is easy. The slide view presents slides in an organized way.

Figure 6.16 - **A Normal slide view**

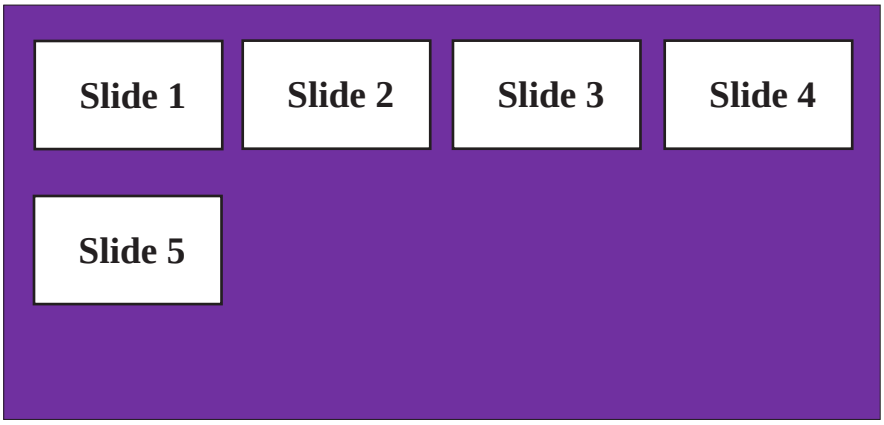


Figure 6.17 - **Slide sorter view**

Activity 14 : See Workbook 6.14

Deleting Slides

Deleting slides can be done using the following methods.

- Using the delete key on the keyboard
- Using the back space key on the keyboard

For this, relevant slide should be selected using the mouse head.

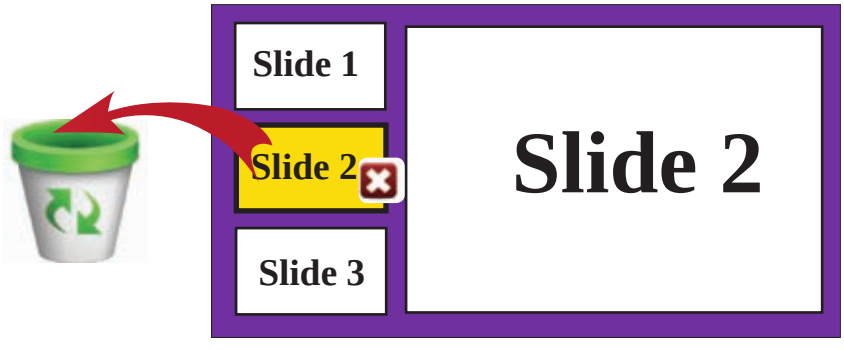


figure 6.18 - **Deleting Slides**

In addition to this, you can use other methods provided by the software to delete slides. (Your teacher will guide you).

You can delete multiple slides at once.

Activity 15 : See Workbook 6.15

Coping Slides

You may need to use a slide of a presentation more than once. Or else you may need to design another slide using none slide. You will have to change a copy of a slide in doing so.

If you want to copy the slide, you can copy and paste the slide by the facilitiy provided by presentation software.

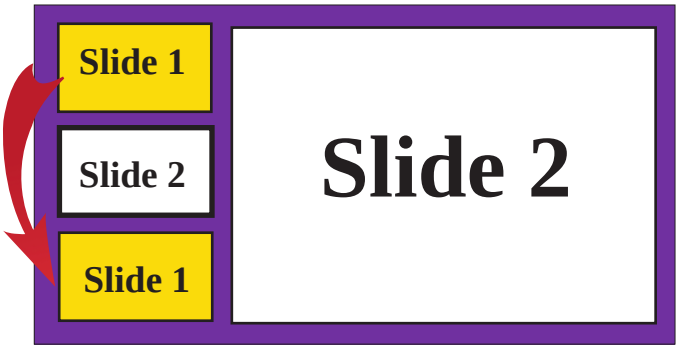


Figure 6.19 - **Copying Slides**

For this you have to take the mouse pointer to the relevant slides. There you have to click paste command from the tools bar or the menu you get when you right click the mouse.

Activity 16 : See Workbook 6.16

Moving Slides

It is not necessary to prepare slides in the same order you want to present. Presentation software allows to change the order after designing. For that, you have to move slides.

To move a slide, selected slide should be dragged and dropped in the relevant place. You can cut and paste the slide too. For this, you can use cut and paste command in tools bar or in the menu you get when you right click the mouse.

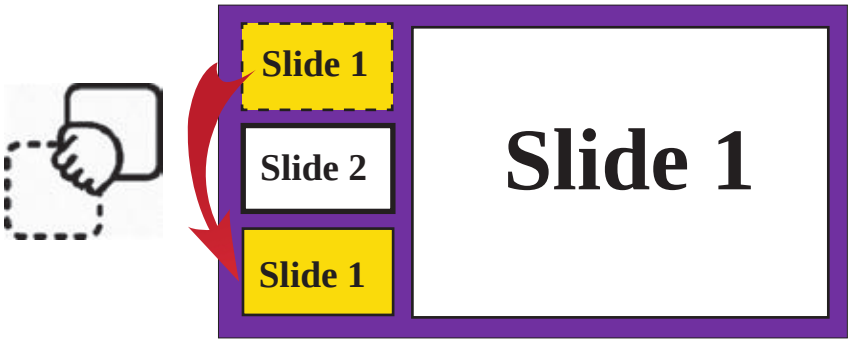


Figure 6.20 - **Moving Slides**

Activity 17 : See Workbook 6.17

Hiding Slides

You may not need to show all the prepared slides in a presentation. You can hide a slide without deleting in such a situation. When a slide is hidden, it does not appear but you when need you can prepare it in such way that it can be seen.

For this you have to select hide slide command in the menu bar of file menu or in the menu you get when the mouse is right clicked.

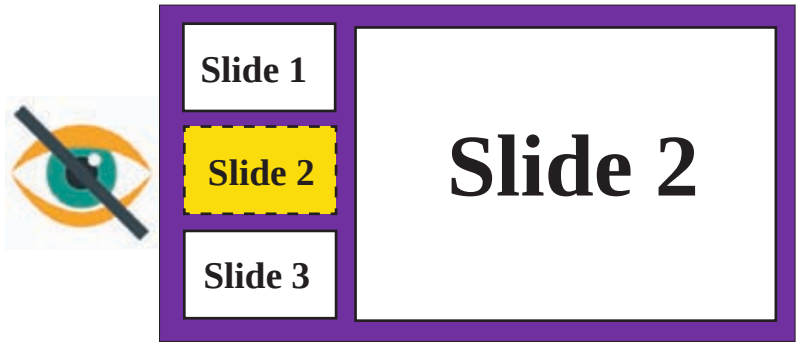


Figure 6.21 - **Hiding Slides**

Activity 18 : See Workbook 6.18

Summary

- Presentation software is a software that can make presentations attractively by using words, images, pictures and sounds.
- Presentations can be made using blank slides or pre-designed presentation slide templates. To open, save and close presentations, open save and close buttons are provided respectively in the software.
- When inserting slides to the presentation, special types of slides are provided. Topic slide, topic and content, sub-heading slide, comparison or double content slide, empty slide, image slide are examples for different types of slides.
- When inserting text into a presentation, different tools are provided to change the font colour, change the font size, to bold, to italic and to underline.
- Images, shapes, video sound tracks and tables can be inserted to the slides. In a presentation, to change from slide to slide. attractive slide change mehods are provided by many presentation software.
- When using presentation software, deleting, copying, moving and hiding of slides can be done.

07 Using Internet for Information and Communication

7.1 Let's learn about the Internet

A network that consists of two or more computers can be considered as a computer network. The internet is an extra-large network with a large number of such computer networks. There are millions of computers on the internet.

Figure 7.1 - Computer Network

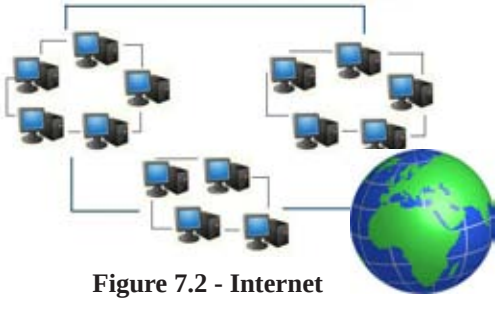


Figure 7.2 - Internet

At present, students can expand their knowledge by using resources like information, videos, images about any subject area by connecting to the internet.

They are many service rendered by the internet apart from providing educational knowledge. The ability to obtain information quickly on any incident in the world is one such service.

7.2 World Wide Web and Uniform Resource Location

A website is formed with many web pages. The world wide web is formed with many websites. There are millions of websites in the world wide web. The world wide web is also known as www.

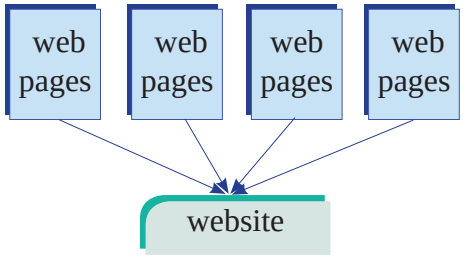


Figure 7.3 - How a website is created

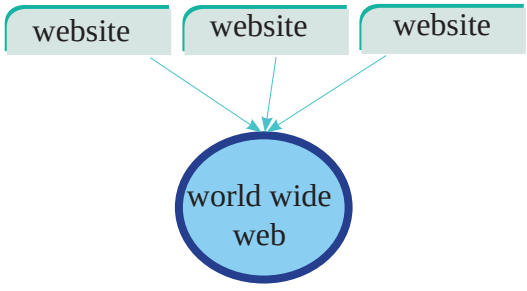
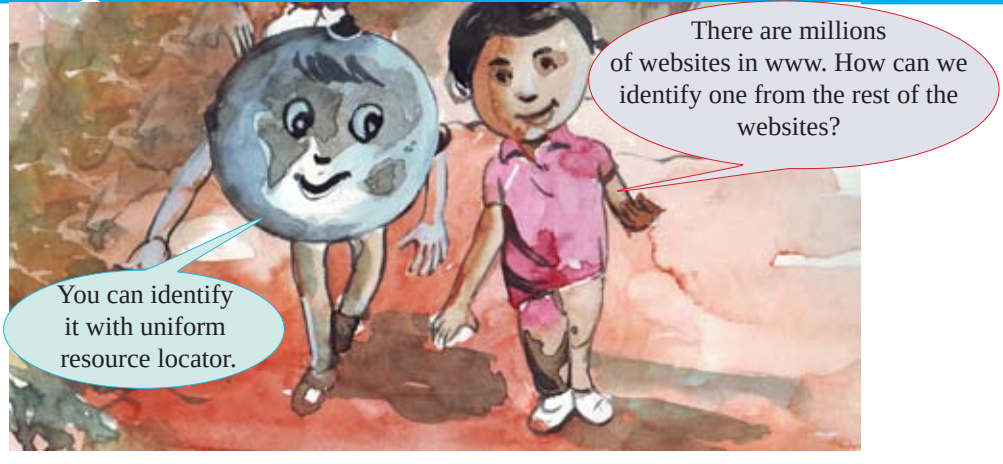


Figure 7.4 - How a world wide web is formed

7.3 Let's learn abouts Uniform Resource Locator



The uniform resource locator is the address used to identify one resource among the huge number of resources in the World Wide Web. The uniform resource locator is also known by its short name URL.

e:g: https:www.moe.gov.lk

Given above is the uniform resource locator or the address of the website of the ministry of Education.

With this website address, the Ministry of Education of Sri Lanka can be identified among many websites in the www.

7.3.1 Let's identify Secured and Unsecured Websites

In order to identify secured and unseceered websites separately different methods are used. The main two methods are given below.

The address of the website starts with https.

e:g: https://moe.gov.lk

After logging in to a website symbol is displayed on the address bar.

e:g: https://moe.gov.lk

7.3.2 Video Conferencing

Video conferencing is known as conducting discussions using video technology on the internet between two persons or a two groups who are geographically located at a distance from each other.

Advantages of conducting video conferencing

- The initaial cost of conducting conferences can be minimized.
- There is no need to travel to the location of the conference and therefore there is no tranport cost or waste of time.
- It can be quickly arranged.

What are the software and hardware required to conduct a video conference?

• A computer
• A web camera
• Internet connection and a software to conduct a video conference are required.

Examples for software used for video conferencing

- Zoom
- Skype
- GoToMeeting
- Webex

Activity 1 : See workbook 7.1

7.3.3 E-mail

Brother, I need to send this letter to one of my friends. Can you post it?

It's easy if you send an e-mail.

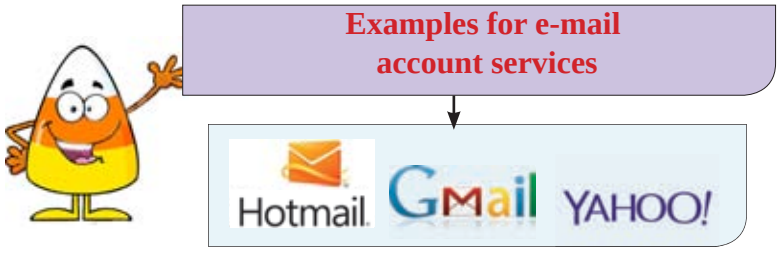
What is e-mail?

E-mail means an easy way of sending a letter on the internet.

E-mail is electronic letters which are electronically exchanged between two people or among several people who have an e-mail address. Many things such as letters, photos, videos and documents can be sent as messages through e-mail.

E-mail Account

First, a suitable service providing website should be selected to create an e-mail account. In most cases such websites provided free e-mail accounts.

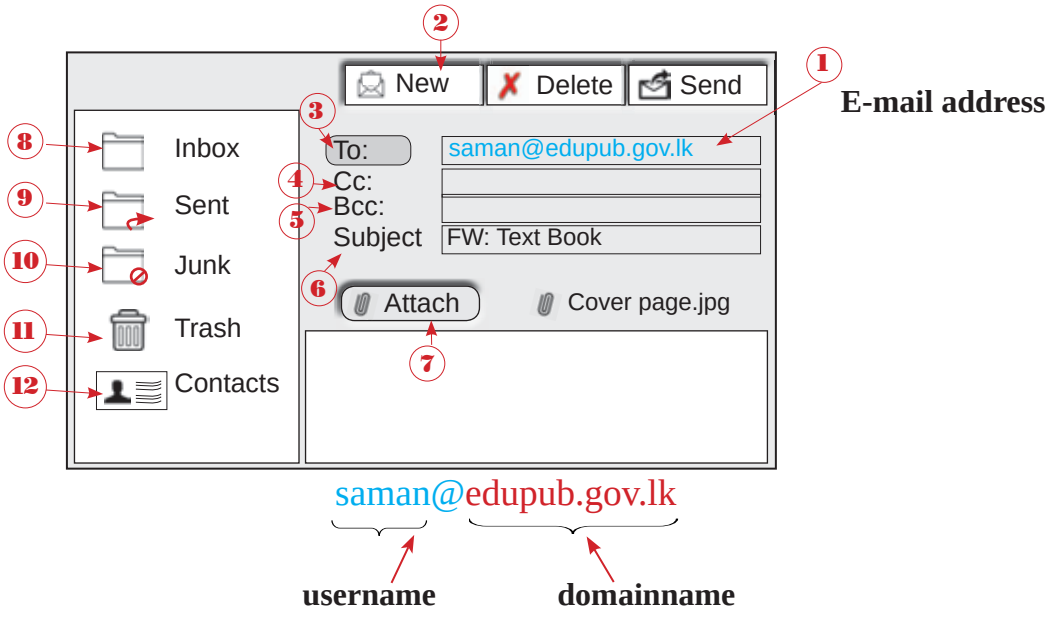


The characteristics of E-mail

- The ability to send copies of one e-mail message to several people at once.
- When the letter couldn't be sent properly to the relevant e-mail account, it is notified with a reply message.
- The ability to save e-mail addresses and retrieve them with the address book.
- The time and date of the sent e-mail is automatically entered to the copy of the e-mail.
- The ability to forward an e-mail message to another person.
- The ability to attach data or information file easily into the e-mail (a photo, a document).

7.3.4 E-mail Window

Given below is a model of an e-mail window.



In the e-mail address saman@edupub.gov.lk, saman in the user name.
@ symbol is used to connect the username to the other part.
edupub.gov.lk after @ symbol is the domain name.
.lk means it is an e-mail address in Sri Lanka.

2 compose/new

A new e-mail window can be obtained by clicking on Compose or New after logging on to the e-mail account

3 To

Here, the e-mail address of the receiver is mentioned

4 Cc (Carbon Copy)

The e-mail addresses of the people to which the copies of this letter should be sent, are mentioned.

5 Bcc (Blind Carbon Copy)

The e-mail addresses in this section are not visible to people whose e-mail addresses are in To and Cc. But all the addresses in To and Cc are visible to pepole whose e-mail addresses are in Bcc.

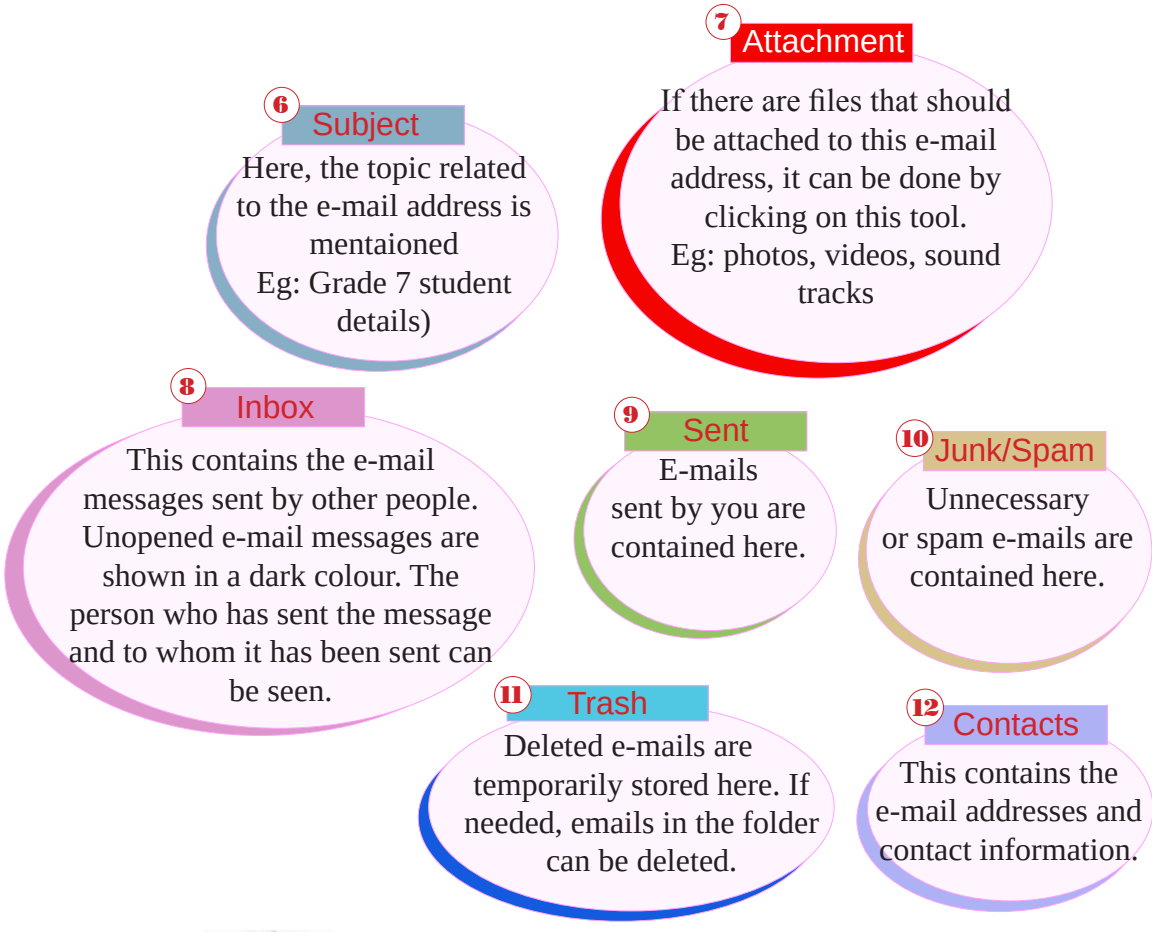
Examples

- ⋆ E-mail address of Amara - amara@yahoo.com
- ⋆ E-mail address Nayana - nayana@gmail.com
- ⋆ E-mail address Meena - meena@yahoo.com

Given below are e-mail addresses mentioned in To, Cc and Bcc of an e-mail message created to send a greetings message.

To: amara@yahoo.com Cc: nayana@gmail.com Bcc: meena@yahoo.com

Here, Meena can see both e-mail addresses of Amara and Nayana. Nayana can only see the e-mail address of Amara. Similarly, Amara can only see Nayana's is e-mail address.



Activity 2 : See Workbook 7.2

7.4 Let's develop Webpages using HTML

7.4.1 HTML Codes

HTML (hyper text markup language) is the language used to create web pages. It has its own codes and a webpage is created by using these codes. Given below are several basic codes used in html.

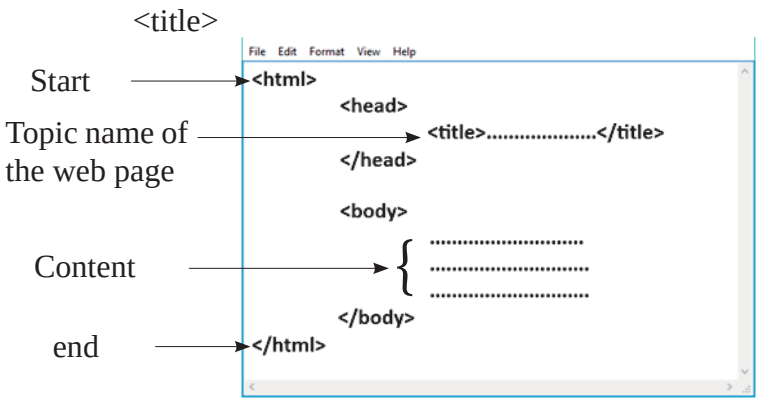
<html>	- Beginning of a web page
<head>	- The first part of the web page
<title>	- The topic of a web page
<body>	- The part in which the items that should appear on a web page are shown
 	- Go to the next line (break line)
<h1>	- Get larger font for the heading (heading 1)
<h6>	- Get smaller font for the heading (heading 6)
	- Centering the letters on the page
<p>	- Start a paragraph
<bgcolor >	- Use a background colour in the web page
<background>	- Use a background images in the web page
<img src>	- Use an image in the web page
<A href>	- Link another file to the web page
<font face>	- Change the font style
<b>	- Bold the font
<i>	- Italicize the font
<u>	- Underline text

7.4.2 Let's create a Simple Web Page

A simple text editing software could be used to enter html codes to create web pages.

E:g:. notepad 

There are occsions where complex software is used to create web pages. Here, we will not focus on that.



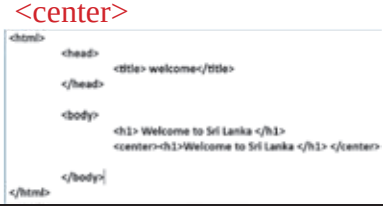
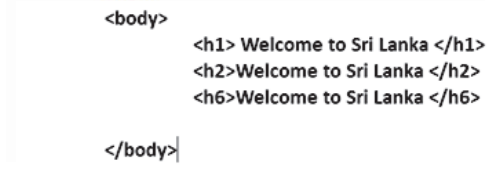
Here, among the <title> codes, a suitable name for the web page should be used.

It appears on the title bar of the web page. Here what is mentioned in <body> _ <body> section is visible in the web page.

All codes should be written between '<' and '>' symbols. In most html codes, there is a beginning and an end. To indicate an ending code '/' symbol should be used.

e:g: <title> beginning end - <title>

The following table contains examples of how html codes are used to create a web page. The first column indicates the use of html codes and the second command indicates how it is visible in the web page.

Usage of html codes	How it appears on the web page
center a line (center) 	
change size of text <h1> <h2> .....<h6> 	

add underline, italic and bold
<u>,<i>,<b>

<u>Welcome to Sri Lanka</u>
Welcome to Sri Lanka
Welcome to Sri Lanka

change font colour and font style
<Font color> හා <Font style>

```
<h1>  Welcome to Sri Lanka </h1>
<h1> <font face="arial black" color="Blue">
          Welcome to Sri Lanka  </h1>
<h1>  <font color="red" face="Monotype Corsiva">
          Welcome to Sri Lanka  </h1>
<h1><font face="FMAbabld" color="Blue">
          Y%S ,xldjg idorfhka ms,s.uq
```

Welcome to Sri Lanka

Welcome to Sri Lanka

Welcome to Sri Lanka

ශ්‍රී ලංකාවට සාදරයෙන් පිළිගනිමු

add background colour
<bgcolor>

```
<body bgcolor="Gold">
          <h1>  Welcome to Sri Lanka </h1>
          <h1> <font face="arial black" color="#ff0000">
          Welcome to Sri Lanka  </h1>
</body>
```

Welcome to Sri Lanka

Welcome to Sri Lanka

insert a paragraph
<p>

```
          <body>
                    <h1> Web browser </h1>
                    <p> A web browser is a piece of software that enables
the user to access web pages and web apps on the internet. There are a
range of browsers available, and they are usually free to download and
install.

          </body>
</html>
```

Web browser

A web browser is a piece of software that enables the user to access web pages and web apps on the internet. There are a range of browsers available, and they are usually free to download and install.

insert a background image
<background>

```
          <head>
                    <title> welcome</title>
          </head>
          <body background="baby.jpg">
                    <h1> Web browser </h1>
```

insert a picture

<img src>

```
<html>
    <head>
        <title> girl</title>
    </head>
    <body >
        <center><h1> Baby Girl </h1>
        <img src="baby.jpg">

    </body>
</html>
```

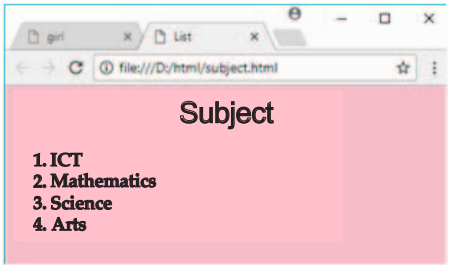
change the height and width of a image

<h1> Baby Girl </h1>

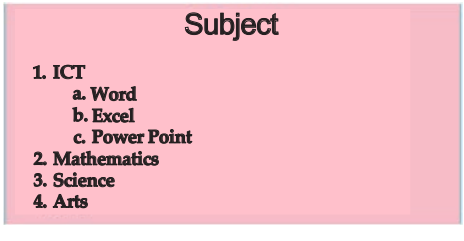
<img src="baby.jpg" width="300" height="200">

insert a numbered list


```
<body bgcolor="pink" >
        <center><h1> Subject  </h1></center><h3>
        <ol>
                <li>ICT
                <li>Mathematics
                <li>Science
                <li>Arts
        </ol>
```




```
<ol>
        <li>ICT
        <ol type="a">
                <li> Word
                <li> Excel
                <li> Power Point
        </ol>
        <li>Mathematics
        <li>Science
        <li>Arts
</ol>
```



<table>
<tr>
<td>insert a bulleted list

ICT

 word
 Excel
 Power Point

Mathematics
Science
Arts
</td>
<td>Subject
• ICT
○ Word
○ Excel
○ Power Point
• Mathematics
• Science
• Arts</td>
</tr>
<tr>
<td>link an external web page, website or a file</td>
<td>Office package

MS-Word
MS- Excel
MS- Power Point

For mare information Click here</td>
</tr>
<tr>
<td>click on the 'click here' to open the internet. html web site.
<a href></td>
<td><body>
office p ackage

MS-Word

MS-Excel

MS-Power Point

 For mare information
Click here
</body></td>
</tr>
</table>

Activity 3 : See Workbook 7.3

7.5 Let's use the Internet Safely and ethically

7.5.1 Let's use the Internet safely

Let's protect ourselves from hacking

Hacking is accessing data and information in a computer or in a computer network without permission.

- Safeguarding the accounts on the internet by using usernames and passwords.
- Protect the computer or the mobile phone used to enter the internet by using a username and a passwords.
- Protect the files, folders and programmes by using passwords.
- Encrypt the hard disk of the computer.
- Service used to access internet should be protected by using a username and a password.
- Keep back ups of data and information in the computer.
- Update the facilities such as antivirus software used for safety.

Protection from Virus Attacks

A virus is a type of malware software. (Revise the facts you learnt about malware software in lesson three).

Computer viruses distupt the activities in a computer. When a virus enters a computer, it duplicates the virus inside the computer. It reduces the efficiency of the computer. It also corrupts data and sometimes deletes them.

- Install antivirus software and update it regularly.
- If the internet is used, use safe websites.
- Refrain from using black listed websites shown by antivirus software.
- Refrain from clicking on pop-up windows.
- Refrain from opening suspected emails and attachments.

Protection from Software Piracy

Software Piracy

Software piracy is copying or keeping duplicate copies or selling them without legal permission.

(Here, we have paid our attention to several measures that can be taken when using software)

- Study the licence agreement before installing a software.
- When buying a software, purchase them from a trusted company.
- If you download a software, use the website of the production.
- Obtain the help and advice of a knowledgable person when purchasing, downloading or installing a software.

7.5.2 Let's use the Internet ethically

Cyber bullying

Cyber bullying is releasing false information which can make a person or an institution uncomfortable and that which can cause harassment and insult.

- On websites such as Facebook, Instagram, Snapchat and Twitter.
- By short messages sent via SMS.
- Through instant messages : Applications and social media websites that provide instant message services.
- By e-mails

Cyber bullying caused by posting insulting photos, making comments on them, uploading videos are categorized under unlawful crimes.

Stealing data which shows the identity of a person

When using the computer we may have to face hazards such as stealing data that indicate the personal identify of a person. If you use the internet, that risk is high.

Examples for data that indicate the identity of a person.

Name	Address
Telephone	Brithday

When the internet is used most of these stealings are done by accessing the computer or the tasks done by the user without his or her permission.

Examples for the misuse of data related to personal identity.

Obtain the information related to the computer and the user without permission and use them for frauds.

Misuse the infromation provided when entering websites.
e:g: Use for business aims without permission.

7.5.3 Precaution on Online Security

Precaution is important when working online using the internet. Several measures that can be taken are given below and they are already discussed under different topics.

- Update the antivirus software installed in the computer.
- Install the latest edition of the web browsers and update them regularly.
- Set the settings as to turn on automatic updates so that new updates of malware software and operating systems (windows 8 and 10) are enabled in the computer.
- Use a strong password: A password with at least eight letters should be used. Here it's better to contain simple letters, capital letters, numbers and special characters, ($, *, # ,@) eg: kanDY#4599
- Protect the wifi router with a password to provide security to the internet connection.
- Be careful about phishing attacks.

Phishing attacks are obtaining information on bank account details and e-mail account details by appearing to be trustworthy and cheating the users. To protect from those, we should refrain from clicking on suspected e-mail messages, pop-up messages and hyperlinks.

Activity 4 : See Workbook 7.4

Summary

- The internet is a collection of networks formed by a large number of computer networks. By connecting to the internet, we can expand our knowledge by obtaining information on any subject area, and resources such as photos and videos.
- Among the services provided by the internet, e-mails, video conferencing, world wide web, file sharing, search engine facilities and downloading videos, songs and photos are the most common.
- The main service provided by the internet is world wide web.
- The uniform resource locator is the method used to identify different resources in each web site separately.
- A web browser is an application software used to make a web site visible on the computer screen.
- Electronic mail or e-mail is a type of letters sent to a person or several people by a person who has an e-mail address by using the internet.
- Software with which free e-mails can be created - Gmail, Yahoo Mail, Outlook Mail.
- An email address is mainly divided into two parts; username and domian name.
- E-mails can be divided into inbox, sent, draft, trash and spam.
- HTML (hyper text markup language) is a basic language used to create web pages.
- To change the font colour and style,< font colour>, and <font face> codes are used. To use a background colour <by colour> code and to insert a picture < img scc> code are mainly used.

- Hacking is stealing information and data in a computer without permission.
- Viruses duplicate in a computer. The memory time which is used to perform other activities is used for this and therefore the computer becomes slow.
- Mainly viruses enter a computer through the internet, computer, networks, compact disks and USB drives.
- Software piracy is obtaining unlawful copies of software which do not have the right to be copied by a user.
- Cyber bullying is releasing negative and fales information which can cause uncomfort, harassment and insult to a person through social media, forums, computer games using digital tools.
- Phishing attacks are obtaining information on bank account details and e-mail account details by appearing to be trustworthy and cheating the users.

English-Sinhala-Tamil Glossary

No	English	Sinhala	Tamil
1.	abstract model	වියුක්ත ආකෘතිය	கருத்தியல் மாதிரி
2.	acceptance testing	ප්‍රතිග්‍රහණ පරීක්ෂාව	ஏற்புச் சோதனை
3.	access privilege	ප්‍රවේශවීමේ වරප්‍රසාදය	அணுகல் உரிமை
4.	agile model	සුචල්‍ය ආකෘතිය	சுறுசுறுப்பு மாதிரி
5.	alternate key	විකල්ප යතුර	மாற்றுச் சாவி
6.	American Standard Code for Information Interchange (ASCII)	තොරතුරු හුවමාරුව සඳහා වූ ඇමරිකානු සම්මත කේතය	தகவல் இடைமாற்றுக்கான அமெரிக்க நியம விதிக்கோவை
7.	amplitude	විස්තාරය	வீச்சம்
8.	amplitude modulation	විස්තාර මූර්ඡනාව	வீச்சப் பண்பேற்றம்
9.	analog	ප්‍රතිසම	ஒப்புமை
10.	anchor	රැඳවුම	நிலை நிறுத்தி
11.	application layer	අනුප්‍රයෝග ස්ථරය	பிரயோக அடுக்கு
12.	architecture	නිර්මිතය	கட்டமைப்பு
13.	arithmetic and logical unit (ALU)	අංක ගණිත හා තාර්කික ඒකකය	எண்கணித மற்றும் தர்க்க அலகு
14.	array	අරාව	அணி
15.	artificial intelligence	කෘතිම බුද්ධිය	செயற்கை நுண்ணறிவு
16.	Affective computing	බුද්ධිමත් සහ චිත්තවේගී පරිගණනය	நுண்ணறிவு உணர்திறன்மிக்க கணித்தல்
17.	associative law	සංඝටන න්‍යාය	கூட்டு விதி
18.	attenuation	වැහැරීම/හායනය	நொய்மை
19.	attribute	උපලක්ෂිය /ගුණය/ උපලක්ෂණය	பண்புகள்
20.	authoring tool	සම්පාදන මෙවලම	படைப்பாக்கக் கருவி
21.	Automated Teller Machine (ATM)	ස්වයංක්‍රීය මුදල් ගනුදෙනු යන්ත්‍රය	தானியங்கிப் பணம் கையாள் இயந்திரம்

22.	autonomous	ස්වයංපාලක/ ස්වතන්ත්‍ර/ස්වායත්ත	சுயாதீன
23.	axiom	ස්වසිද්ධිය/ප්‍රත්‍යක්ෂය	வெளிப்படை உண்மை
24.	backups	උපස්ථ	காப்பெடுத்தல்
25.	bandwidth	කලාප පළල/බඳස් පළල	பட்டை அகலம்
26.	batch processing	කාණ්ඩ සැකසුම	தொகுதி முறைவழியாக்கம்
27.	big data	මහා දත්ත	பெரிய தரவு
28.	binary	ද්විමය	துவிதம், இருமம்
29.	binary coded decimal (BCD)	ද්විමය කේතික දශමය	இருமக் குறிமுறை தசமம்
30.	bio-inspired computing	ජෛව ප්‍රේරිත පරිගණනය/ ජෛව අනුප්‍රේරිත පරිගණනය	உயிரியல் உள்ளீர்ப்புக் கணிப்பு
31.	bit coin	බිට් කාසි	நுண்கடன் பணம் செலுத்தல்
32.	bitwise	බිට් අනුසාරිත	பிட் வாரி
33.	bitwise logical operation	බිට් අනුසාරිත තාර්කික මෙහෙයුම්	பிட் வாரி தர்க்கச் செயற்பாடு
34.	black box testing	කාල මංජුසා පරීක්ෂාව	கறுப்புப்பெட்டிச் சோதிப்பு
35.	blogging	වෙබ් සටහනය	வலைப்பதிவிடல்
36.	boot–up	ප්‍රවේශනය	தொடங்குதல்
37.	broadcasting	විකාශනය	தொலைபரப்பல்
38.	browsing	අතරික්සීම	மேலோடல்
39.	bubble sort	බුබුළු තේරීම/ යා-සැසඳුම් තේරීම	குமிழி வகைப்படுத்தல்
40.	built-in	තුළබැඳි / තිළැලි	உட்பொதிந்த
41.	business process re-engineering (BPR)	ව්‍යාපාර ක්‍රියාවලියේ ප්‍රති ඉංජිනේරුකරණය	வணிக செயல்முறை மீள்கட்டமைப்பு
42.	candidate key	නිරූපය යතුර	பிரதிநிதித்துவச் சாவி
43.	cardinality	ගණනීයතාව	எண்ணளவை
44.	cathode ray tube (CRT)	කැතෝඩ කිරණ නලය	கதோட்டுக் கதிர் குழாய்

45.	central processing unit (CPU)	මධ්‍ය සැකසුම් ඒකකය	மத்திய செயற்பாட்டு அலகு
46.	characteristics	ගති ලක්ෂණ / ස්වලක්ෂණ	சிறப்பியல்புகள்
47.	check box	සලකුණු කොටුව	சரிபார்ப்புப் பெட்டி
48.	client-server model	සේවා යෝජක-සේවා දායක ආකෘතිය	சேவைப் பயனர் மாதிரி
49.	clock	ස්පන්දකය	கடிகாரம்
50.	cloud computing	වලාකුළු පරිගණනය	மேகக் கணிமை
51.	coaxial cable	සමක්ෂක කේබලය	ஓரச்சு வடம்
52.	code editor	කේත සංස්කාරක	குறிமுறை தொகுப்பி
53.	comment	විවරණය	விளக்கக் குறிப்பு
54.	commutative law	න්‍යායදේශ න්‍යාය	பரிமாற்று விதி
55.	compact disc	සුසංහිත ඩිස්කය	ஒளியியல் வட்டு
56.	compatibility	ගැළපුම	பொருந்துகை
57.	compiler	සම්පාදකය	தொகுப்பான்
58.	component	සංරචකය	கூறு
59.	composite key	සංයුක්ත යතුර	கூட்டுச் சாவி
60.	constant	නියතය	மாறிலி
61.	content management system (CMS)	අන්තර්ගත කළමනාකරණ පද්ධතිය	உள்ளடக்க முகாமைத்துவ முறைமை
62.	context switching	සන්දර්භ සුවිචනය	சந்தர்ப்ப நிலைமாற்றல்
63.	contiguous allocation	යාබද විභාජනය	அடுத்தடுத்தான ஒதுக்கீடு
64.	control structure	පාලන ව්‍යුහය	கட்டுப்பாட்டுக் கட்டமைப்பு
65.	control unit (CU)	පාලන ඒකකය	கட்டுப்பாட்டலகு
66.	credit card	ණයපත	கடனட்டை
67.	customization	අභිරුචිකරණය	தனிப்பயனாக்கல்
68.	data	දත්ත	தரவு
69.	data and control bus	දත්ත සහ පාලන පථ	தரவும் கட்டுப்பாட்டுப் பாட்டையும்

70.	database management system (DBMS)	දත්ත සමුදාය කළමනාකරණ පද්ධති	தரவுத்தள முகாமைத்துவ முறைமை
71.	data definition language (DDL)	දත්ත නිර්වචන භාෂාව	தரவு வரையறை மொழி
72.	data dictionary	දත්ත ශබ්දකෝෂය	தரவு அகராதி
73.	data flow diagram	දත්ත ගැලීම් සටහන	தரவு பாய்ச்சல் வரைபடம்
74.	data flow model (DFM)	දත්ත ගැලීම් ආකෘතිය	தரவு பாய்ச்சல் மாதிரி
75.	data link layer	දත්ත සබැඳි ස්ථරය	தரவு இணைப்பு அடுக்கு
76.	data manipulating language (DML)	දත්ත හැසුරුම් බස	தரவு கையாளல் மொழி
77.	data migration	දත්ත පරිගමනය	தரவு பெயர்ச்சி
78.	debugging	නිදොස් කිරීම්	வழு நீக்கல்
79.	decision support system (DSS)	තීරණ සහාය පද්ධති	தீர்மான உதவு முறைமை
80.	declarative	ප්‍රකාශාත්මක	அறிவிப்பு
81.	default values	පෙරනිමි අගය	இயல்புநிலை மதிப்பு
82.	defragmentation	ප්‍රතිඛණ්ඩනය	துணிக்கை நீக்கல்
83.	demodulation	විමූර්ජනය	பண்பிறக்கம்
84.	device	උපාංගය / උපක්‍රමය	சாதனம்
85.	device driver	උපාංග ධාවක මෘදුකාංග	சாதனச் செலுத்தி
86.	digital	අංකිත	இலக்க முறை
87.	digital camera	අංකිත කැමරාව	இலக்கமுறைப் படக்கருவி
88.	digital economy	අංකිත ආර්ථිකය	இலக்கமுறைப் பொருளாதாரம்
89.	digitizer	සංඛ්‍යාංකකය	இலக்கமாக்கி
90.	direct implementation	සෘජුස්ථාපනය	நேரடி அமுலாக்கம்
91.	disk formatting	තැටි/ඩිසක හැඩසවි ගැන්වීම	வட்டு வடிவமைப்பு
92.	distortion	විකෘතිය	திரிபு

93.	distributive law	විසටන න්‍යාය	பங்கீட்டு விதி
94.	document flow diagram	ලේඛන ගැලීම් සටහන	ஆவணப் பாய்ச்சல் வரைபடம்
95.	domain	වසම	ஆள்களம்
96.	domain name server (DNS)	වසම් නාම සේවාදායකය	ஆள்களப் பெயர் சேவையகம்
97.	domain name system (DNS)	වසම් නාම පද්ධතිය	ஆள்களப் பெயர் முறைமை
98.	dynamic host configuration protocol (DHCP)	ගතික ධාරක පාලන නියමාවලිය	மாறும் விருந்தோம்பி உள்ளமைவு நெறிமுறை
99.	dynamic web page	ගතික වෙබ් පිටු	இயக்குநிலை வலைப்பக்கம்
100.	e-commerce	විද්‍යුත් වාණිජ්‍යය	மின் வர்த்தகம்
101.	economical feasibility	ආර්ථික ශක්‍යතාව	பொருளாதாரச் சாத்தியப்பாடு
102.	elementary process description(EPD)	මූලික ක්‍රියාවලි විස්තරය	அடிப்படைச் செய்முறை விபரிப்பு
103.	e-market place	ඉ-වෙළඳ පොළ	இலத்திரனியல் சந்தை இடம்
104.	encryption	ගුප්ත කේතනය	மறைகுறியாக்கம்
105.	enterprise resource planning system (ERPS)	ව්‍යවසාය සම්පත් සැලසුම් පද්ධතිය	நிறுவன மூலவள திட்டமிடல் முறைமை
106.	entity	භූතාර්ථය/අභිභූතත්වය/සත්තාව	நிலைபொருள்
107.	entity identifier	භූතාර්ථ/අභිභූතත්වය හඳුන්වනය	நிலைபொருள் அடையாளங்காட்டி
108.	entity relationship(ER) diagram	භූතාර්ථ සම්බන්ධතා රූපසටහන	நிலைபொருள் உறவுமுறை அட்டவணை
109.	executable	ක්‍රියාත්මක කළ හැකි	இயக்கத்தகு
110.	executive support system (ESS)	විධායක සහාය පද්ධතිය	நிறைவேற்று உதவு முறைமை
111.	expert system	විශේෂඥ පද්ධතිය	நிபுணத்துவ முறைமை

112.	extended binary coded decimal interchange cod (EBCDIC)	විස්තෘත ද්විමය කේතක දශම	நீடித்த துவித குறிமுறை தசம இடமாற்றக் குறி
113.	extended entity relationship (ER) diagram	විස්තෘත භූතාර්ථ සම්බන්ධතා රූප සටහන	விரிவாக்கப்பட்ட நிலைபொருள் உறவுமுறை அட்டவணை
114.	feasibility study	ශක්‍යතා අධ්‍යයනය	சாத்தியப்பாடு கற்கை
115.	feedback loop	ප්‍රතිපෝෂණ ලූපය	பின்னூட்டல் வளையம்
116.	fetch-execute cycle	ආහරණ-ක්‍රියාකරවීම් චක්‍රය	தருவிப்பு நிறைவேற்றுச் சுழற்சி
117.	fiber optic	ප්‍රකාශ තන්තු	இழை ஒளியியல்
118.	file	ගොනුව	கோப்பு
119.	file hierarchy	ගොනු ධුරාවලිය	கோப்பு படிநிலை
120.	firewall	ගිනි පවුර	தீச்சுவர்
121.	normal form	ප්‍රථම ප්‍රමත අවස්ථාව	இயல்பாக்கல் வடிவம்
122.	fixed internal hard disk	අචල අභ්‍යන්තර දෘඪ තැටි	நிலையான உள்ளக வன்தட்டு
123.	flash memory	සෑණ/ ක්ෂණික මතකය	பளிச்சீட்டு நினைவகம்
124.	flash memory card	සෑණ/ ක්ෂණික මතක පත	பளீச்சிட்டு நினைவக அட்டை
125.	flat file system	ඒක ගොනු පද්ධතිය	சமதளக் கோப்பு முறைமை
126.	flip-flop	පිළි-පොළ	எழு-விழு
127.	float	ඉපුලීම/ඉපිලීම	மிதவை
128.	floppy disk	නම්‍ය තැටිය	நெகிழ் வட்டு
129.	flow chart	ගැලීම් සටහන	பாய்ச்சற் கோட்டுப்படம்
130.	folder	ගොනු බහලුම	கோப்புறை
131.	foreign key	ආගන්තුක යතුර	அந்நியச்சாவி
132.	formatting	හැඩසවි ගැන්වීම	வடிவமைத்தல்
133.	frame	රාමුව	சட்டகம்
134.	frequency modulation	සංඛ්‍යාත මූර්ඡනය	அதிர்வெண் பண்பேற்றல்

135.	full adder	පූර්ණාකලකය	முழுமைக் கூட்டி
136.	function	ශ්‍රිතය / කාර්යය	சார்பு
137.	functional dependency	කාර්ය බද්ධ පරායත්තතාව	செயல் சார்புநிலை
138.	functional requirement	කාර්ය බද්ධ අවශ්‍යතාව	செயல்படு தேவை
139.	quantum computing	ක්වොන්ටම් පරිගණනය	சொட்டு கணிப்பு அடிப்படை
140.	gateway	දොරටු මඟ / වාසල් ද්වාරය /වාහල්දොර	நுழைவாயில்
141.	genetic algorithm	සහජ ඇල්ගොරිදමය	மரபணு வழிமுறை
142.	geographical information system(GIS)	භූගෝලීය තොරතුරු පද්ධතිය /මිහිතැන් තොරතුරු පද්ධතිය	புவியியல் தகவல் முறைமை
143.	graph plotter	ප්‍රස්තාර ලකුණුකරණය	படவரையி
144.	graphic tablet	චිත්‍රකඵලකය	வரைவியல் விவரமாக்கி
145.	grid computing	ජාලක පරිගණනය	கோட்டுச்சட்டகக் கணிமை
146.	guided media	නියමු මාධ්‍ය	வழிபடுத்தப்பட்ட ஊடகம்
147.	half adder	අර්ධාකලකය	அரை கூட்டி
148.	hand trace	හස්තානුරේඛනය	கைச் சுவடுகள்
149.	hard disk	දෘඩ තැටිය / දෘඪ ඩිස්කය	வன்தட்டு
150.	hardware	දෘඪාංග	வன்பொருள்
151.	hexadecimal	ෂඩ් දශමය	பதினறுமம்
152.	hierarchical model	ධූරාවලි ආකෘතිය	படிநிலை மாதிரி
153.	host	සත්කාරකය	விருந்தோம்பி
154.	hub	නාභිය	குவியன்
155.	human operator	මිනිස්ක්‍රියාකරුවෝ	மனித இயக்குபவர்
156.	hybrid approach	දෙමුහුන් ප්‍රවේශය	கலப்பு அணுகல்
157.	hyperlink	අධිසම්බන්ධකය	மீ இணைப்பு
158.	Integrated circuits (IC)	අනුකලිත පරිපථ	ஒருங்கிணைந்த சுற்று
159.	icon	නිරූපකය	சிறு படம்

160.	identity	සර්වසාම්‍ය	அடையாளம்
161.	image	රූපය	படிமம்
162.	imperative	විධානාත්මක	கட்டளை
163.	incremental	වර්ධනාත්මක	ஏறுமான, அதிகரிப்பு
164.	indexed allocation	අනුක්‍රමික විභාජනය	சுட்டி ஒதுக்கீடு
165.	information	තොරතුරු	தகவல்
166.	inkjet printer	තීන්ත විදුම් මුද්‍රකය	மைத்-தாரை அச்சுப்பொறி
167.	instant messaging	ක්ෂණික පණිවුඩ යැවීම	உடனடிச் செய்தியிடல்
168.	integrated development environment(IDE)	සමෝධානික සංවර්ධන පරිසරය	ஒருங்கிணைந்த விருத்தி சூழல்
169.	integration test	අනුකලන පරීක්ෂණය	ஒருங்கிணைந்த சோதிப்பு
170.	intelligent and emotional computing	බුද්ධිමත් සහ චිත්තවේගී පරිගණනය	நுண்ணறிவும் உணர்திறனுமிக்க கணித்தல்
171.	interface	අතුරු මුහුණ	இடைமுகம்
172.	internet service provider(ISP)	අන්තර්ජාල සේවය සපයන්නා	இணையச் சேவை வழங்குனர்
173.	interpreter	අර්ථවිනිවාසකය	மொழிமாற்றி
174.	interrupt	අතුරු බිඳුම	இடையூறு
175.	intranet	අන්ත:ජාලය/ අන්තෝජාල	அகவிணையம்
176.	internet of things (IoT)	**සාර්ව ද්‍රව්‍ය අන්තර්ජාලය/** සබැඳි ද්‍රව්‍ය අන්තර්ජාලය	பொருட்களின் இணையம்
177.	iteration	පුනර්කරණය	மீள் செயல்
178.	karnaugh map	කානෝ සිතියම	காணோ வரைபடம்
179.	knowledge management system(KMS)	දැනුම් කළමනාකරණ පද්ධතිය	அறிவு முகாமைத்துவ முறைமை
180.	large scale integration (LSI)	විශාල පරිමාණයේ අණුකලනය	பாரிய அளவு ஒருங்கிணைப்பு
181.	latency	පමාව/ගුප්තතාව	மறைநிலை

182.	least significant	අඩුම්වෙසෙසි	சிறும மதிப்பு
183.	legend	විස්තර පාඨය	குறி விளக்கம்
184.	life cycle of data	දත්ත ජීවන චක්‍රය	தரவு வாழ்க்கை வட்டம்
185.	light emitting diode(LED) display	ආලෝක විමෝචක දියෝඩ සන්දර්ශකය	ஒளிகாலும் இருவாயித் திரை / ஒளி உமிழும் இரு முனையம்
186.	linked allocation	සබැඳී විභාජනය	இணைப்பு ஒதுக்கீடு
187.	linker	සන්ධාරකය	இணைப்பி
188.	liquid crystal display(LCD)	ද්‍රවස්ඵටික සන්දර්ශකය	திரவப்பளிங்குக் கணினித் திரை
189.	list	ලැයිස්තුව	பட்டியல்
190.	liveware	ජීවාංග	உயிர் பொருள்
191.	local publishing	ස්ථානීය ප්‍රසිද්ධ කිරීම	உள்ளக வெளியீடு
192.	local area network (LAN)	ස්ථානීය ප්‍රදේශ ජාලය	இடத்துரி வலையமைப்பு
193.	logic gate	තාර්කික ද්වාරය	தர்க்கப் படலை
194.	Logical Data Modeling(LDM)	තාර්කික දත්ත ආකෘතිකරණය	தர்க்கத் தரவு மாதிரியுருவாக்கல்
195.	logical data structure	තාර්කික දත්ත ව්‍යුහය	தர்க்கத் தரவுக் கட்டமைப்பு
196.	logical design tools	තාර්කික සැලසුම් මෙවලම්	தர்க்க வடிவமைப்புக் கருவி
197.	looping	ලූපනය	வளைய வரல்
198.	machine code	යන්ත්‍ර කේතය	இயந்திரக் குறியீடு
199.	machine-machine coexistence	යන්ත්‍ර-යන්ත්‍ර සහපැවැත්ම	இயந்திர- இயந்திர ஒருங்கிருத்தல்
200.	magnetic ink character reader(MICR)	චුම්බකිත තීන්ත අනු ලකුණු කියවනය	காந்த மை எழுத்துரு வாசிப்பான்
201.	magnetic stripe reader	චුම්බක තීරු කියවනය	காந்தப்பட்டி வாசிப்பான்
202.	magnetic tape	චුම්භක පටිය	காந்த நாடா
203.	malware	අනිෂ්ඨ මාදුකාංග	தீம்பொருள்

204.	management information system (MIS)	කළමනාකරණ තොරතුරු පද්ධතිය	முகாமைத்துவ தகவல் முறைமை
205.	man-machine coexistence	මිනිස්-යන්ත්‍ර සහපැවැත්ම	மனிதன் - இயந்திரம் ஒருங்கிருத்தல்
206.	media access control (MAC)	මාධ්‍ය ප්‍රවේශ පාලක	ஊடக அணுகல் கட்டுப்பாடு
207.	memory management unit(MMU)	මතක කළමනාකරණ ඒකකය	நினைவக முகாமைத்துவ அலகு
208.	mesh topology	බැඳී ස්ථලකය	கண்ணி இடத்தியல்
209.	microprocessor	ක්ෂුද්‍ර සකසනය	நுண்செயலி
210.	microwave	ක්ෂුද්‍ර තරංග	நுண்ணலை
211.	mini disk	කුඩා තැටිය	சிறு வட்டு
212.	mobile computing	ජංගම පරිගණනය	செல்லிடக் கணிமை
213.	mobile marketing	ජංගම අලෙවිකරණය	செல்லிடச் சந்தைப்படுத்தல்
214.	modularization	මොඩියුලකරණය	கூறு நிலையாக்கம்
215.	modulation	මූර්ජනය	பண்பேற்றம்
216.	most significant	වැඩිම වෙසෙසි	அதியுயர் மதிப்பு
217.	mother board	මව් පුවරුව	தாய்ப்பலகை
218.	multi agent systems	බහු කාරක පද්ධති	பல்முகவர் முறைமை
219.	multi user-multi task	බහු පරිශීලක - බහු කාර්යය	பற்பயனர்-பற்பணி
220.	multi-core processors	බහු හර සකසන	பல்கரு செயலி
221.	multimedia objects	බහු මාධ්‍ය වස්තු	பல்லூடக பொருள்
222.	multiplexer	බහු පථකාරකය	பல்சேர்ப்பி
223.	multiplexing	බහු පථකරණය	பல்சேர்ப்பு
224.	multiprocessing	බහු සැකසුම්	பன்முறைவழியாக்கி
225.	multitasking	බහුකාර්ය කිරීම්	பற்பணி
226.	multi-threading	බහු-අනුක්‍රියායනය	பல் செயல்கூறு
227.	nature inspired	ප්‍රකෘති ප්‍රේරිත පරිගණනය/	இயற்கை உள்ளீர்ப்புக்

	computing	ප්‍රකෘති අනුප්‍රේරිත පරිගණනය	கணிப்பு
228.	nested loop	නිඩිත ලූපය	நீடித்த வளையம்
229.	network addresses translating (NAT)	ජාල යොමු පරිවර්තනය	வலையமைப்பு முகவரி பெயர்ப்பு
230.	network architecture	ජාල නිර්මිතය	வலையமைப்புக் கட்டமைப்பு
231.	network layer	ජාල ස්ථරය	வலையமைப்பு அடுக்கு
232.	network model	ජාල ආකෘතිය	வலையமைப்பு மாதிரி
233.	neural network	ස්නායුක ජාලය	நரம்பியல் வலையமைப்பு
234.	non-functional requirement	කාර්යබද්ධ නොවන අවශ්‍යතාව	செயல்சாராத் தேவைகள்
235.	normalization	ප්‍රමිතකරණය	இயல்பாக்கல்
236.	null	අභිශූන්‍ය	வெற்று
237.	object code	වස්තු කේත/	பொருள் குறி
238.	object oriented	වස්තු නැඹුරු / පාදක	பொருள் நோக்குடைய
239.	object- relational model	වස්තු-සම්බන්ධක ආකෘතිය	பொருள் உறவுநிலை மாதிரி
240.	octal	අෂ්ටමය	எண்மம்
241.	office automation system (OAS)	කාර්යාල ස්වයංකරණ පද්ධතිය	அலுவலகத் தன்னியக்க முறைமை
242.	offline	මාර්ග අපගත/ මාර්ගගත නොවන	தொடரறு நிலை
243.	one's compliment	එකෙහි අනුපූරකය	ஒன்றின் நிரப்பி
244.	online	මාර්ගගත	தொடரறா நிலை
245.	open source	විවෘත මූලාශ්‍ර	திறந்த மூலம்
246.	operational feasibility	මෙහෙයුම් ශක්‍යතාව	செயற்பாட்டுச் சாத்தியப்பாடு
247.	operator category	කාරක ප්‍රවර්ගය	செயலி வகை
248.	operator precedence	කාරක ප්‍රමුඛතා	செயலி முன்னுரிமை
249.	optical character reader (OCR)	ප්‍රකාශ අඟු ලකුණු කියවනය	ஒளியியல் எழுத்துரு வாசிப்பான்

250.	optical mark reader (OMR)	ප්‍රකාශ ලකුණු කියවනය	காந்த மை எழுத்துரு வாசிப்பான்
251.	output	ප්‍රතිදානය	வெளியீடு
252.	packet switching	පොදි හුවමාරුව	பொதி மடைமாற்றல்
253.	paging	පිටුකරනය	பக்கமிடல்
254.	paradigm	සුසමාදර්ශය/ ප්‍රතිමානය/ප්‍රතිරූපය	கோட்பாட்டுச் சட்டகம்
255.	parallel implementation	සමාන්තර ස්ථාපනය	சமாந்தர அமுலாக்கம்
256.	parameter passing	පරාමිති යැවීම	பரமானக் கடத்தல்
257.	parity	සමතාව	சமநிலை
258.	password	මුර පදය	கடவுச்சொல்
259.	payment gateway	ගෙවුම් වාසල් ද්වාරය	பணக் கொடுப்பனவு நுழைவாயில்
260.	periodic refreshing	ආවර්ත ප්‍රබෝධකරණය	காலமுறை புதுப்பித்தல்
261.	peripheral device	පර්යන්ත උපාංගය / උපශ්‍රමය	புறச் சாதனம்
262.	phablet	ෆැබ්ලට්	பெப்லட்
263.	phased implementation	අවධිස්ථාපනය / පියවර ක්‍රියාත්මකකිරීම්	கட்ட அமுலாக்கல்
264.	phase modulation	කලා මුර්ජනය	நிலை பண்பேற்றம்
265.	phishing	තතුබෑම්	வழிப்பறித்தல்
266.	physical layer	භෞතික ස්ථරය	பௌதீக அடுக்கு
267.	physical memory	භෞතික මතකය	பௌதீக நினைவகம்
268.	pilot implementation	නියාමක ස්ථාපනය / නියාමක ක්‍රියාත්මක කිරීම්	முன்னோடி அமுலாக்கல்
269.	piracy	චෞරත්වය/ ලුණ්ඨනය	களவு
270.	pirated software	චෞර/ලුණ්ඨිත මෘදුකාංග	திருட்டு மென்பொருள்
271.	plagiarism	ග්‍රන්ථ/රචනා චෞර්යය	கருத்துத் திருட்டு
272.	point to point connection	ඍජු ලක්ෂ්‍ය සම්බන්ධතාව	ஒன்றுடனொன்று இணைப்பு

273.	pointing device	දැක්වුම් උපාංගය	சுட்டி சாதனம்
274.	port	කෙවෙනිය	வாயில், துறை
275.	portable external hard disk	ජංගම/සුවහනීය බාහිර දෘඪ තැටිය	காவத்தகு புற வன்தட்டு
276.	portal	ද්වාරය/ ආමුඛද්වාරය	வலைவாசல்
277.	Point of sale (POS) machine	විකුණුම් පොල යන්ත්‍ර	விற்பனை இட இயந்திரம்
278.	postulate	උපකල්පනය	எடுகோள்
279.	power supply	විදුලි සැපයුම/ජව සැපයුම	மின் வழங்கி
280.	presence check	තථ්‍යතා පරීක්ෂාව	இருத்தல் சரிபார்த்தல்
281.	presentation layer	සමර්පන/ඉදිරිපත් කිරීම් ස්ථරය	முன்வைப்பு அடுக்கு
282.	primary key	ප්‍රාථමික/මුල් යතුර	முதன்மைச் சாவி
283.	primitive data type	ප්‍රාථමික දත්ත වර්ගය	பூர்வீகத் தரவு வகை
284.	privacy	පෞද්ගලිකත්වය	அந்தரங்கம்
285.	private key	පෞද්ගලික යතුර	பிரத்தியேகச் சாவி
286.	process	ක්‍රියාවලිය/ක්‍රියායනය/ සැකසුම	செயல்/ முறைவழியாக்கல
287.	process control block(PCB)	ක්‍රියායන පාලන ඛණ්ඩය	செயல் கட்டுப்பாட்டுத் தொகுதி
288.	process management	ක්‍රියායන කළමනාකරණය	செயல் முகாமைத்துவம்
289.	process states	ක්‍රියායන තත්ත්ව	செயல் நிலை
290.	process transition	ක්‍රියායන සංක්‍රමණය	செயல் நிலைமாறல்
291.	product commercialization	නිෂ්පාදන වාණිජ්‍යකරණය	தயாரிப்பு வர்த்தகமயமாக்கல்
292.	product of sum (POS)	ඒකාබයන්ගේ ගුණිතය	கூட்டுத்தொகையின் பெருக்கம்
293.	program translator	ක්‍රමලේඛ පරිවර්තක	செய்நிரல் மொழிபெயர்ப்பான்
294.	proprietary	හිමිකම් සහිත	தனியுரிமை
295.	protocol	නියමාවලිය	நடப்பொழுங்கு

296.	prototyping	මූලාකෘතිකරණය	மூலவகை மாதிரி
297.	proxy server	නියෝජන සේවාදායකය	பதிலாள் சேவையகம்
298.	pseudo code	ව්‍යාජ කේතය	போலிக்குறி
299.	public switch telephone network (PSTN)	පොදු ස්විච දූරකථන ජාලය	பொது ஆளியிடப்பட்ட தொலைபேசி வலையமைப்பு
300.	public key	පොදු යතුර	பொதுச் சாவி
301.	pulse code modulation	ස්පන්ද කේත මූර්ජනය	துடிப்புக்குறி பண்பேற்றம்
302.	pulse width modulation	ස්පන්ද විතර මූර්ජනය	துடிப்பு அகலப் பண்பேற்றம்
303.	radio button	විකල්ප තේරීම	ரேடியோ பொத்தான்
304.	random access memory (RAM)	සසම්භාවී ප්‍රවේශ මතකය	தற்போக்கு அணுகல் நினைவகம்
305.	range check	පරාස පරීක්ෂාව	வீச்சு சரிபார்த்தல்
306.	rapid application development (RAD)	ශීඝ්‍ර යෙදවුම් සංවර්ධනය	துரித பிரயோக விருத்தி
307.	read only memory (ROM)	පඨන මාත්‍ර මතකය	வாசிப்பு மட்டும் நினைவகம்
308.	real time	තථ්‍ය කාලික	நிகழ்நேரம்
309.	record	උපලැකියාන	பதிவு
310.	redo	නැවත කිරීම	மீளச் செய்
311.	redundancy	සමතිරික්තතාව	மிகைமை
312.	reference model	යොමු ආකෘතිය	வலையமைப்பின் கட்டமைப்பு
313.	refreshing	පුබුදු කිරීම	புத்துயிர்ப்பித்தல்
314.	register memory	රෙජිස්තර මතකය	பதிவகம்
315.	relational	සම්බන්ධක	தொடர்பு, உறவுநிலை
316.	relational model	සම්බන්ධක ආකෘතිය	உறவுநிலை மாதிரி
317.	relational database	සම්බන්ධක දත්ත සමුදාය	உறவுநிலை தரவுத்தளம்
318.	relational instance	සම්බන්ධතා නිදර්ශනය	தொடர்பு முறை எடுத்துக்காட்டு

319.	relational schema	සම්බන්ධතා පරිපාටික සටහන	தொடர்பு முறைத் திட்டம்
320.	relationship	සම්බන්ධතාවය	தொடர்புமுறை
321.	remote	දූරස්ථ	தொலை, தூர
322.	render	විදැහු	வழங்கு
323.	repeater	පුනර්කථකය	மீளி, மீட்டி
324.	repetition	පුනරුක්තිය	மீள் செயல்
325.	reset button	ප්‍රත්‍යාරම්භ බොත්තම	மீளமைப்புப் பொத்தான்
326.	retrieve	සමුද්ධරණ	மீளப்பெறு
327.	return value	ප්‍රත්‍යාගමන අගය	திரும்பல் பெறுமானம்
328.	reverse auction	ප්‍රතිවෙන්දේසිය	எதிர்மாற்று ஏலம்
329.	ring topology	මුදු ස්ථලකය	வளைய இடத்தியல்
330.	router	මං හසුරුව	வழிப்படுத்தி, வழிச்செலுத்தி
331.	routing	මං හැසිරවීම	வழிச்செலுத்தல்
332.	scanner	සුපිරික්සකය	நுணுகு நோக்கி
333.	scheduler	නියමකරණය	ஒழுங்குபடுத்தி
334.	scope of variable	විචල්‍ය පරාසය	மாறி செயற்பரப்பு
335.	query	විමසුම	வினவல்
336.	selection	තේරීම	தெரிவு
337.	selector	වරකය	தேர்வி, தேர்ந்தெடுப்பி
338.	sensor	සංවේදකය	உணரி
339.	sequence	අනුක්‍රමය	தொடர்
340.	sequential circuit	අනුක්‍රමික පරිපථය	தொடர்ச் சுற்று
341.	sequential search	අනුක්‍රමික සෙවුම	வரிசைமுறைத் தேடல்
342.	server	සේවාදායකය / අනුග්‍රාහකය	சேவையகம்
343.	session layer	සැසි ස්ථරය	அமர்வு அடுக்கு
344.	sharable pool	හුවමාරු පුංජය	பகிரதகு பொது இடம்
345.	sign-magnitude	ලකුණුවත් ප්‍රමාණය / සංලක්ෂිත	குறியுடைய வீச்சளவு

		පරිමාණනය / අංකිත පරිමාණනය	
346.	single user-multi task	ඒක පරිශීලක-බහු කාර්යය	தனிப்பயனர்-பற்பணி
347.	single user-single task	ඒක පරිශීලක-ඒක කාර්යය	தனிப்பயனர்-தனிப்பணி
348.	smart card	සුහුරු කාඩ්පත	சூட்டிகை அட்டை
349.	smart phone	සුහුරු දුරකථනය	சூட்டிகைத் தொலைபேசி
350.	smart system	සුහුරු පද්ධතිය	சூட்டிகை முறைமை
351.	social networking	සමාජ ජාලකරණය	சமூக வலையமைப்பாக்கல்
352.	software	මෘදුකාංග	மென்பொருள்
353.	software agent	මෘදුකාංග කාරක	மென்பொருள் முகவர்
354.	sort	තේරීම	வரிசைப்படுத்து
355.	source	ප්‍රභව	மூலம்
356.	spiral model	සර්පිල ආකෘතිය	சுருளி மாதிரி
357.	spooling	එකීම	சுற்றுதல்
358.	Star topology	තාරකා ස්ථලකය	விண்மீன் இடத்தியல்
359.	stepwise refinement	පියවරාකාර පිරිපහදුව	படிமுறை நீக்கல்
360.	storage	ආචයනය	சேமிப்பு
361.	storage allocation	ආචයන විභාජනය	சேமிப்பு ஒதுக்கல்
362.	stored program concept	ආචිත ක්‍රමලේඛ සංකල්පය	சேமிக்கப்பட்ட செய்நிரல் எண்ணக்கரு
363.	structure	ව්‍යුහය	கட்டமைப்பு
364.	structure chart	ව්‍යුහ සටහන	கட்டமைப்பு வரைபு
365.	structured	ව්‍යුහගත	கட்டமைப்புடைய
366.	structured query language(SQL)	ව්‍යුහගත විමසුම් බස	கட்டமைப்பு வினவல் மொழி
367.	submit button	යොමු බොත්තම	சமர்ப்பித்தல் பொத்தான்
368.	subnet mask	උප ජාල ආවරණය	உபவலை மறைமுகம்
369.	sub-netting	උප-ජාලනය	உபவலையமைப்பு

370.	sub-program	උප-ක්‍රමලේඛය	துணைச் செய்நிரல்
371.	sum of products (SOP)	ගුණිතයන්ගේ වේකාය	பெருக்கங்களின் கூட்டுத்தொகை
372.	supply chain management	සැපයුම් දාම කළමනාකරණය	விநியோக சங்கிலித்தொடர் முகாமைத்துவம்
373.	swapping	ප්‍රතිහරණය	இடமாற்றல்
374.	switch	ස්විචය	ஆளி
375.	syntax	කාරක රීති	தொடரியல்
376.	system development life cycle(SDLC)	පද්ධති සංවර්ධන ජීවන චක්‍රය	முறைமை விருத்தி வாழ்க்கை வட்டம்
377.	table	වගුව	அட்டவணை
378.	table check constraint	වගු පරීක්ෂා සංරෝධකය	அட்டவணை சரிபார்த்தல் கட்டுப்பாடு
379.	tag	උසුලනය	ஒட்டு
380.	Technical feasibility	තාක්ෂණික ශක්‍යතාව	தொழினுட்பச் சாத்தியக் கற்கை
381.	telecommuting	දුරස්ථ සංවාදය / දුර සන්නිවේදනය	தொலைசெயல்
382.	testing strategy	පරීක්ෂණ උපක්‍රමය	பரீட்சித்தல் உபாயம்
383.	text and font	පාඨ සහ අක්ෂර	வாசகமும் எழுத்துருவும்
384.	text formatting	පාඨ හැඩසවි ගැන්වීම්	வாசக வடிவமைப்பு
385.	text input	පාඨ ආදාන	வாசக உள்ளீடு
386.	normal form	ප්‍රමිත අවස්ථාව	இயல்பாக்கல் வடிவம்
387.	thumbnail	සැකෙවි රූ	குறும்படம்
388.	time division modulation (TDM)	කාල බෙදුම් මූර්ජනය	நேரப் பிரிவுப் பண்பாக்கம்
389.	time sharing	කාල විභජනය	நேரப்பகிர்வு
390.	timing	කාල ගණනය	நேரக்கணிப்பு
391.	top down design	මුදුන් බිම් සැලසුම්	மேலிருந்து கீழான வடிவமைப்பு

392.	touch pad	ස්පර්ශක උපධානය / පාදකය	தொடு அட்டை
393.	touch screen	ස්පර්ශක තිරය	தொடுதிரை
394.	transaction processing system(TPS)	ගනුදෙනු සැකසුම් පද්ධතිය	பரிமாற்றச் செயலாக்க முறைமை
395.	transitive dependency	සංක්‍රාන්ති පරායත්තතාව	மாறும் சார்பு நிலை
396.	transport layer	ප්‍රවාහන ස්ථරය	போக்குவரத்து அடுக்கு
397.	transport protocol	ප්‍රවාහන නියමාවලිය	போக்குவரத்து நடப்பொழுங்கு
398.	tuple	උපලැකියාන/පේලිය	பதிவு/நிரை
399.	twisted pair	ඇඹිරි යුගල	முறுக்கிய சோடி
400.	two's compliment	දෙකෙහි අනුපූරකය	இரண்டின் நிரப்பி
401.	type check	ප්‍රරූප පරීක්ෂාව	வகை சரிபார்த்தல்
402.	constraint	සංරෝධනය	கட்டுப்பாடு வகை
403.	ubiquitous computing	සර්වවර්ති ආගණනය	எங்கும் வியாபித்த கணிமை
404.	undo	අහෝසි කිරීම	செயல்தவிர்
405.	unguided media	නියමු නොවන මාධ්‍ය	வழிபடுத்தப்படாத ஊடகம்
406.	uni-casting	ඒෘජු සම්ප්‍රේෂණය	தனிப்பரப்பல்
407.	unicode	යුනිකෝඩ්/ ඒකකේත	ஒற்றைக்குறி முறை
408.	unique constraint	අනන්‍ය සංරෝධකය	தனித்துவக் கட்டுப்பாடு
409.	unit testing	ඒකක පරීක්ෂණය	அலகுச் சோதனை
410.	universal	සාර්වත්‍ර	பொது
411.	updating	යාවත්කාලීන කිරීම්	தற்காலப்படுத்தல்
412.	user	පරිශීලක	பயனர்
413.	user defined	පරිශීලක නිර්වාචිත	பயனர் வரையறை
414.	validation	වලංගු කිරීම්	செல்லுபடியாக்கல்
415.	variable	විචල්‍යය	மாறி
416.	very large scale integration (VLSI)	ඉතා විශාල පරිමාණයේ අනුකලිත	மிகப் பெரியளவிலான ஒருங்கிணைப்பு

417.	video graphic adapter (VGA)	දෘශ්‍ය චිත්‍රක අනුහුරුකුරුව	காணொளி வரையி பொருத்தி
418.	virtual community	අතථ්‍ය ප්‍රජාව	மெய்நிகர் சமூகம்
419.	virtual memory	අතථ්‍ය මතකය	மெய்நிகர் நினைவகம்
420.	virtual storefront	අතථ්‍ය වෙළඳ ප්‍රදර්ශනාගාරය	மெய்நிகர் கடைமுகப்பு
421.	waterfall model	දියඇලි ආකෘතිය	நீர் வீழ்ச்சி மாதிரி
422.	wave length	තරංග ආයාමය	அலை நீளம்
423.	web portal	වෙබ් ද්වාරය	வலை வாசல்
424.	web server	වෙබ් සේවාදායකය	இணைய சேவையகம்
425.	web service provider	වෙබ් සේවා සැපයුම්කරු	இணைய சேவை வழங்குனர்
426.	white box testing	ස්වේත මංජුසා පරීක්ෂාව	வெண்பெட்டிச் சோதிப்பு
427.	world wide web(WWW)	ලෝක විසිරි වියමන	உலகளாவிய வலை
428.	uniform resource locator (URL)	ඒකාකාරී සම්පත් නිශ්චායකය	சீர்மை வள இருப்பிடங்காட்டி
429.	uniform resource identifier(URI)	ඒකාකාරී සම්පත් හඳුන්වනය	சீர்மை வள அடையாளங்காட்டி

මෙම පාරිභාෂික ශබ්ද මාලාව තවදුරටත් ගොඩනැගෙමින් පවතී.