

SCHEME OF WORK+

SUBJECT:

COMPUTER STUDIES

CLASS: JS 2

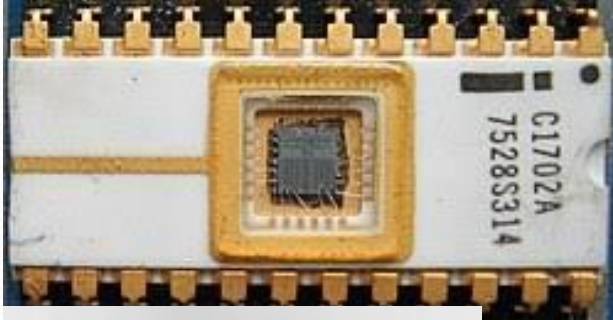
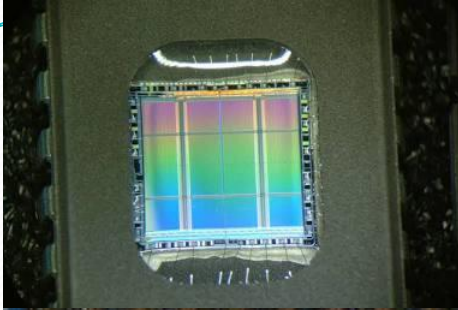
TERM: 1st

WEEK 1	GENERAL TOPIC: Computer Ethics
Period 1	Definition of computer ethics,
Period 2	Responsible use of computer
Period 3	
WEEK 2	GENERAL TOPIC: Computer Ethics
Period 1	Responsible use of internet
Period 2	Areas of misuse of internet
Period 3	
WEEK 3	GENERAL TOPIC: Computer Ethics
Period 1	Ways of maintaining the computer room
Period 2	Laboratory rules and regulations
Period 3	Safety measure to be taken when using computer

WEEK 4	GENERAL TOPIC: CLASSIFICATION OF COMPUTERS BY GENERATION
Period 1	By generation (1 st ,2 nd ,3 rd 4 th , and 5 th generations)
Period 2	
Period 3	
WEEK 5	GENERAL TOPIC: CLASSIFICATION OF COMPUTERS
Period 1	By types, Size and by degree of versatility or purpose
Period 2	
Period 3	
WEEK 6	GENERAL TOPIC: COMPUTER SYSTEM
Period 1	Definition of computer, functions of computer, and constituents of computer system
Period 2	
Period 3	

WEEK 7	GENERAL TOPIC: COMPUTER SYSTEM
Period 1	System unit and peripheral devices
Period 2	
Period 3	
WEEK 8	GENERAL TOPIC: COMPUTER SOFTWARE
Period 1	Definition of computer software. Types and examples of software.
Period 2	
Period 3	
WEEK 9	GENERAL TOPIC: COMPUTER SOFTWARE
Period 1	Definition of System software, types and examples. Definition of application software, types and examples.
Period 2	
Period 3	

WEEK 10	GENERAL TOPIC: REVISION
Period 1	Revision
Period 2	Revision
Period 3	
WEEK 11- 12	GENERAL TOPIC: EXAMINATION & CLOSURE
Period 1	EXAMINATION
Period 2	
Period 3	
WEEK 12	



EPROM, or Erasable Programmable Read-Only Memory, is a type of non-volatile computer memory chip that retains data even when the power is off and can be reprogrammed. It was historically used for storing firmware like the BIOS, but was largely replaced by newer technologies like EEPROM and flash memory. To erase an EPROM, it must be exposed to strong ultraviolet light, which is why the chips often had a small quartz window.

In computers, PROM stands for Programmable Read-Only Memory, a type of non-volatile memory that, unlike standard ROM, is blank and can be programmed only once by the user with a special device. Once programmed, the data stored on a PROM is permanent, cannot be erased, and is retained even when the power is off. The programming process, sometimes called burning, creates internal links (fuses or antifuses) on the chip, making PROMs suitable for low-volume applications where the data does not need to change after being written.

17-09-2024

COMPUTER STUDIES

JSII CLASS

IST TERM NOTE

COMPUTER JS 2 CA TEST

1. State five areas of misuse of computer and Internet.
2. Explain the following terms
 - a) Cyberwar
 - b) Fraud
 - c) Plagiarism

WEEK 1

Definition: ETHICS is the moral rules, standards or principles of behaviour for deciding what is right and what is wrong.

COMPUTER ETHICS

Computer ethics are the moral principle that govern the use of computer. it is also the rules and regulations that guide the way we use computer system in order to achieve our goals.

RESPONSIBLE USE OF COMPUTERS

Computer system is a valuable and expensive piece of equipment that requires caution in order to get maximum performance from it. Therefore, the following rules should be adhered to:

1. Avoid liquid from coming in contact with the computer system.
2. Cover the computer system with transparent covers when not in use to prevent dust from entering into them.
3. The UPS {Uninterruptible Power Supply} should be charged overnight for maximum performance. Ensure that computer systems are connected to properly charged UPS systems to prevent them from damages caused due to power surge or failure.



4. Unplug the computer system from power source and all electrical gadgets before leaving the office at the end of the day.

5. Food particles should not be allowed to penetrate the keyboard.

6. The computer should be connected to the UPS to avoid system break down.

7. Make use of surge protectors to prevent electric surge from damaging the computers.

WEEK 2

Responsible Use of the Internet

1. Always endeavour to check your e-mail regularly.
2. The content of your message may be received by another person, so be mindful of your words and write responsibly.
3. The subject of e-mails should be short, meaningful and descriptive.
4. Always spell check your messages before they are sent.
5. Be mindful of the websites you visit, some sites are very dubious waiting for victims; others pornographic in nature and can infect the computer system with virus.
6. Install anti-virus in your computer and avoid file attachments from unknown source prevent virus attack
7. While chatting, be mindful of how you exchange information about yourself

AREAS OF MISUSE OF COMPUTERS AND THE INTERNET

Computers and the Internet are misused by the users in the following areas:

1. **Hacking:** Hacking is an act of gaining unauthorized access to computers. Anyone who does the act is called a Hacker. Hackers write programs that steal passwords allowing them to access into people's privacy illegally.
2. **Computer virus:** Viruses are programs that damage our files. A lot of viruses are contacted through the internet by infected COs, flash drives, fictitious emails, etc (Cosavirus)
3. **Fraud:** Scam letters and false information are sent through e-mails and mailing lists fraudulently collect money and other valuable items from innocent/ignorant persons.
4. **Stealing (or Phishing):** Internet criminals engage in stealing vital information from victim's websites, emails, and even Personal Computers. Information-stealing software is used to achieve this purpose. Examples of information they steal includes: ATM card 1. pin, email passwords, usernames, etc. The act of using the Internet to get personal, vital or financial information is known as Phishing.

- 
5. Pornography: The internet is medium for the distribution of pornographic materials, so be careful and be sensitive to websites you visit.
 6. Cyber War: Cyber war is the use of computers, the internet and other devices to attack the enemies of information systems. Cyber warriors use technological means to launch a war ie, attacks which can be used to shut down websites of their enemies thereby potentially disrupting their government and industries computer system.
 7. Piracy: This is a very common area of misusing the internet and even computers. People duplicate other people's work illegally especially CD, DVD, tapes, films, software etc.
 8. Plagiarism: This entails copying another person's work such as music, books, etc, without prior written permission and presenting it as one's work.



ASSIGNMENT 1

1. Identify any FOUR sources of computer ethics
2. Mention five responsible ways of using computer and internet
3. What is ethics

SUBMIT ON FRIDAY 4TH OCT.

WEEK 3

Ways of Maintaining the Computer Room

1. A dust free environment should be maintained in the computer room.
2. The computer room should be appropriately ventilated.
3. The computer room should have an appropriate lighting system.
4. The computer room should be well furnished.
5. All the computers in the computer room should be covered after use.
6. There should be strong security around the computer room.

LABORATORY RULES AND REGULATIONS

1. Pupils are prohibited to enter the Lab unless authorized by the teacher.
2. Scan flash drives before using them.
3. Report all problems related to the system to the teacher.
4. Do not attempt to repair or tamper with Lab equipment.
5. Be responsible when using equipment, software and facilities in the Lab.
6. Do not move any equipment from its original position.
7. Do not remove or load any software into the computer.

- 
8. Do not change the settings in the computer.
 9. Save all work in external storage device and not in the computer.
 10. Do not bring in bags, food and drink into the Lab.
 11. Turn off the computer accordingly after use.
 12. Switch off all power supplies before leaving the Lab.
 13. Internet facility is strictly for educational purposes only.
 14. Teachers should record the use of computer lab in the Lab log book.
 15. All users should record the use of computers in the computer log book.
 16. The Lab should be kept clean and tidy at all times.
 17. There should be sign to inform people that smoking is not allowed in the computer room.

Safety measures to be taken when using the computer.

To protect the computer systems and the computer personnel, some safety measures must be taken and they are as follows:

1. Good sitting posture should be maintained (i.e. always sit straight)
2. Antiglare protection (monitor filter) should be used to protect the eyes.
3. The monitor should be positioned to the eye level to avoid bending.
5. A computer room must be properly lit.
6. The computer environment must be clean and free from dust.
7. liquid should be avoided completely in the computer room.
8. There should be no eating and drinking beside the computer system.



10 Computer systems and peripherals should be arranged so as to allow free entry and free exit.

11 The computer room should be air conditioned.

12 Unauthorized personnel should not be allowed into the computer room.

Assignment 2

1. Mention TEN things that are required in the Computer room

Computer Room Requirements

- i. Computer system Furniture
- ii. Rug
- iii. Electricity source Stabilizer
- iv. Air conditioner /fans
- v. Printer, Speaker, Curtain
- vi. Fire extinguisher, Surge protector, Dust covers
- vii. Mouse and mouse pad Printing papers
- viii. Uninterruptible Power Supply (UPS)



Assignment 3

State clearly and concisely, five safety measures to be taken when using a computer.

JS2 COMPUTER
3RD CA TEST



WEEK 4

CLASSIFICATION OF COMPUTERS ACCORDING TO GENERATIONS

Classification of computers according to generations means that the computer was made according to the technological development of that particular period.

Till date, there are five computer generations. 1st, 2nd, 3rd, 4th, and 5th generations.

The classification and time periods are given below:

1. First Generation Computer (1940-1956)
2. Second Generation Computer (1956-1963)
3. Third Generation Computer (1964-1971)
4. Fourth Generation Computer (1970's onward)
5. Fifth Generation Computer (Present and future)

First Generation Computer (1940-1956)

First generation computers were characterized by vacuum tubes as CPU, magnetic drum for data storage, and machine languages were used for giving instruction. The computer of this generation was very large in size called room-sized computers. The programming of first generation computers was done in machine languages (0s and 1s)

First generation computers (1940-1956)

These computers were developed between 1940 - 1956

Features of first generation computers:

- Technology used: vacuum tube
- Machine languages were used to instruct the computer.
- Magnetic core memory was used as primary memory.
- Electrostatic tubes, tape, punch card, magnetic tape
- Punched card, printing devices were used for input/output operations and store the result.
- It occupies very large space, slow processing, inefficient and unreliable due to low accuracy.
- Power consumption was very high and it generated much heat.
- It could only perform straight forward simple numerical calculation.
- Computer used to be much expensive.

The example of first generation computers is ENIAC, UNIVAC, EDVAC, and EDSAC.

MID - TERM HOLIDAY ASSIGNMENT

WRITE OUT THE FULL FORM OF THESE TERMS IN COMPUTER

1. DVD
2. VLSI
3. IC
4. COBOL
5. ENIAC
6. UNIVAC
7. EDVAC
8. EDSAC
9. FORTRAN
10. BASIC
11. CD
12. PROM
13. EPROM



VACUUM TUBES

First generation computers



SECOND GENERATION COMPUTER (1956-1963)

Second generation computer replaced machine language with assembly language, the transistor was developed in this generation. A transistor transfers electric signals across a resistor

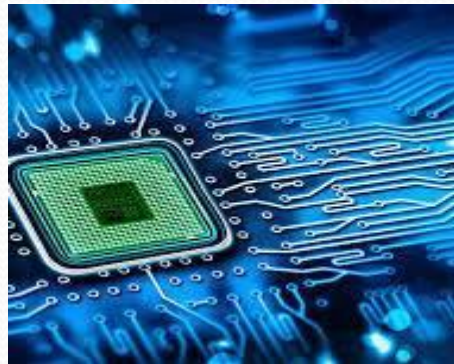
Some of features of second generation computers: 1956-1963

- i. Technology used Transistor
- ii. Operating speed was in terms of a microsecond.
- iii. Assembly language and machines independent language such as COBOL (Common Business Oriented Language) and FORTRAN (Formula Translation) were introduced the size of the computer.
- iv. Magnetic core memory was used as primary memory.
- v. Magnetic drum and magnetic tape were used as secondary memory.
- vi. Power required to operate them was low.
- vii. It could perform scientific calculation such as solving differential equations.
- viii. Storage capacity and use of computers are increased.

Second generation computers (1956-1963)

- Transistors replaced vacuum tubes and ushered in the second generation of computers.
- Second-generation computers moved from cryptic binary machine language to symbolic.
- High-level programming languages were also being developed at this time, such as early versions of COBOL and FORTRAN.
- These were also the first computers that stored their instructions in their memory.

TRANSISTORS



COMPUTER CHIPS

Second generation computers



THIRD GENERATION COMPUTER (1964-1971)

Transistors were replaced with an integrated circuit known popularly as chips.

These computers were highly reliable, relatively expensive and faster. High-level programming languages continued to be a developer.

The example of third generation computers is IBM-360 series, ICL-900 series, and Honeywell 200 series.

Features of the third-generation computers are:

- i. The technology used: IC (Integrated Circuit).
- ii. Transistors were replaced by IC in their electronic circuitry.
- iii. High-level languages like FORTRAN, BASIC and others are used to develop programs.
- iv. Semiconductor memory like RAM and ROM were used as primary memory.
- v. Monitor and keyboard were introduced for data input and output respectively.
- vi. Multiprogramming facility was developed.
- vii. The computer was used in census calculation, military, banks and industries.
- viii. Size, cost, power requirement and heat generation decreased.
- ix. Processing speed and storage capacity used of computer increased.

Third generation computers (1964-1971)

- The development of the integrated circuit was the hallmark of the third generation of computers.
- Transistors were miniaturized and placed on siliconchips, called semiconductors.
- Instead of punched cards and printouts, users interacted with third generation computers through keyboards and monitors and interfaced with an operating system.
- Allowed the device to run many different applications at one time.

Third generation computers

- **IC (INTEGRATED CIRCUIT)**



Fourth Generation Computer (1971 onward)

The invention of microprocessor chip marked the beginning of the fourth-generation computers. Semiconductor memories replaced magnetic core memories. The invention of microprocessors led to the development of microcomputer or the personal computer.

The first microprocessor called Intel 4004 was developed by American Intel Corporation 1971.

Features Of The Fourth Generation Computer Are:

- i. Technology in use: VLSI is introduced and used Microprocessor-based technology.
- ii. Problem-oriented fourth generation language (4GL) is used to develop the program.
- iii. Semiconductor like RAM, ROM and cache memory is used as a primary memory.
- iv. Magnetic disks like hard disk, optical disk (CD, DVD), Blue-ray disk, flashes memory and (memory chip, pen drive) are used as secondary memory.
- v. E-mail, Internet and mobile communication are developed.
- vi. Advanced, user-friendly, web page software was developed.
- vii. Size, cost, power requirement, heat generation decreased compared to the previous generation.
- viii. Operating speed, storage capacity, use of computer increased compared to the previous generation

The example of the fourth-generation computer is IBM-PC, HP laptops, Mac notebook etc.

Fourth generation computers (1970-present)

- The microprocessor brought the fourth generation of computers, as thousands of integrated circuits were built onto a single silicon chip.
- The Intel 4004 chip, developed in 1971, located all the components of the computer.
- From the central processing unit and memory to input/output controls—on a single chip.
- . Fourth generation computers also saw the development of GUIs, the mouse and handheld devices.

Fourth generation computers



FIFTH GENERATION COMPUTER (PRESENT AND FUTURE)

The aim is to bring machines with genuine IQ, the ability to reason logically and with real knowledge of the world.

Thus, this computer will be totally different, totally novel and totally new than last four generations of computer.

Fifth generation computer was based on Artificial

Intelligence (AI) and that is still developing process, but not yet a reality i.e this computer is incomplete. These computers will be able to converse with people and will be able to mimic human sense, manual skills, and intelligence.

Features of the fifth generation computers are:

- i. Technology to be used: These machines will incorporate Bio-chip and VVLSI (Very Very Large Scale Integration) or Ultra-Large Scale Integration (ULSI)
- ii. The computer will have Artificial Intelligence (AI).
- iii. Natural language will be used to develop programs.
- iv. The computer will have parallel processing in full fledge.
- v. The operating speed will be in terms of LIPS (Logical Inference per Second)
- vi. The aim is to solve highly complex problems, which require great intelligence and expertise when solved by people.
- vii. Quantum computation, molecular and nanotechnology will be used completely.

Fifth generation computers (present and beyond)

Fifth generation computing devices, based on artificial intelligence.

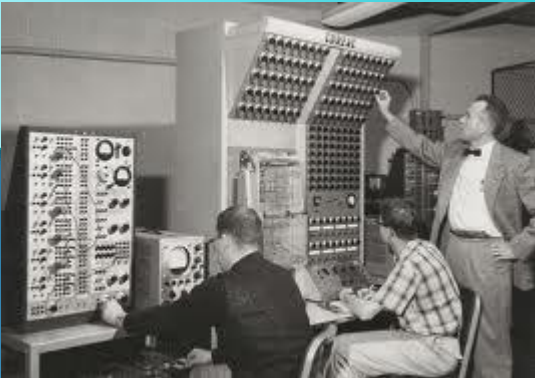
- They are still in development, though there are some applications, such as voice recognition.
- The use of parallel processing and superconductors is helping to make artificial intelligence a reality.
- The goal of fifth-generation computing is to develop devices that respond to natural language input and are capable of learning and self-organization.



CLASS WORK

1. List three types of computer.
2. Give four examples of Digital computer.

The Five Generations of Computers



Fifth generation computers



CLASSIFICATION OF COMPUTERS

Computers are classified according to their

1. size
2. generation
3. types and
4. degree of versatility, functionality usefulness or purpose.

CLASSIFICATION OF COMPUTERS BY TYPE OF DATA PROCESSED

Computers that can be classified according to types include:

- Analogue computer.
- Digital computer.
- Hybrid computer.

ANALOGUE COMPUTER

This type of computer represent data as physical qualities because of this feature it processes information inform of signal.

Examples of analogue computers are:

speedometer, thermometer, Ammeter, Voltmeter Pressure gauge etc.

Characteristics Of Analogue Computer.

It processes data in discrete nature.

Uses Of Analogue Computer.

It is used by PCS, home appliances, TVs, Microwaves, wall clocks etc.



Ammeter, instrument for measuring either direct (DC) or alternating (AC) electric current, in amperes.

Analogue computer.

A computer that works with numbers represented by directly measurable quantities (as voltages or resistances)

A digital computer is an electronic device capable of holding large amounts of data and carrying out arithmetical computations and groups of logical processes at high speed.

A hybrid computer is a computational system that combines the features of both analog and digital computers, harnessing the advantages of both types.

THE DIGITAL COMPUTERS:

These are computer that operate using the Binary number system. Any information that goes into computer must be expressed in form of discrete values or numbers or digital. It processes data in numerical form, 0 and 1 or signals ON and OFF.

Characteristics of Digital Computer.

It processes data that is continuous in nature.

Uses of Digital Computer.

It is used in manufacturing processes control like monitoring temperatures, pressures, density. Examples of digital computers are microcomputer, minicomputer, main frame computer and etc

HYBRID COMPUTER:

These are computers that combine the most desirable qualities of Analogue and Digital computers.

They have the capacity of converting data from digital form to either analogue or digital.

Characteristics Of Hybrid Computer.

It is designed to process both analogue and digital data.

Uses Of Hybrid Computer

It is used in manufacturing industries as a process control system that returns a digital value or analogue.

EXAMPLES ARE:

A digital weighing machine.

A digital thermometer.

CLASSIFICATION OF COMPUTER BY SIZE

Computer can also be classified by their physical sizes and speed. Examples are:

- Micro computer.
- Minicomputer
- Main frame computer.
- Super computer.

MICROCOMPUTER

1. Microcomputer is at the highest end of the computer range in terms of speed and storage capacity.

It is a microprocessor. Its processing speed is in micro second

Mini Computer:

This type of computer is designed to support more than one user at a time. It operates on a high speed.

Mainframe Computer:

This type of computer operates at a very high speed.
They have very large storage capacity.

Super Computers:

They are the fastest and most expensive computer machines.
They have the highest processing speed; they also have multi-processing technique.
They are mainly used for weather forecasting.

CLASSIFICATION OF COMPUTER BY FUNCTIONALITY, PURPOSE OR DEGREE OF VERSATILITY.

There are three major classification of computer according to purpose or degree of versatility.

- General purpose.
- Special purpose.
- Dedicated purpose or embedded system

SPECIAL-PURPOSE COMPUTERS:

These types of computers are designed to carry out specific task and will not be applied to other computerized activities. They function in one capacity only...

Examples are: ATM machines, digital watches, Robots, brain box, calculators, cell phone, thermometer etc.

Uses of special –purpose.

It is used to design specifically one task.

GENERAL-PURPOSE COMPUTERS:

These are versatile, programmable Digital Computers that can solve a wide variety of problems on their designed capabilities as well as on the ability of the user to write programs. These computers are not specifically designed for special jobs. They solve various problems depending on the program loaded into them. Most of the commonly used computers are general purpose computers.

Examples: microcomputer pcs, cell phones, note books etc.

USES OF GENERAL – PURPOSE.

It is used to perform a varieties of tasks.

DEDICATED OR EMBEDDED COMPUTERS:

These Types of computer are designed as a general purpose but dedicated to perform a specific task.

Example: PCS. It is used for learning environment, banking, communication etc.

COMPUTER SYSTEM

Definition of computer:

Computer is an electronic device that accept data as an input, processes it, saves it or output it as information.

FUNCTIONS OF COMPUTER:

it is used to input data

it is used to process data

it is used to save data

it is used to output information

CONSTITUENTS OF COMPUTER

There are two constituents of computer: Hardware and software

- i. Hardware is the physical part of the computer that we see and touch or feel
- ii. Software are series of programs that direct the hardware on task to perform

SYSTEM UNIT

The computer system unit refers to the case, box, or tower that includes many components that work together in order to communicate with other computers, produce sound and audio, and allow human interaction.

The computer system unit does not include the monitor, mouse, keyboard, or screen.

SYSTEM UNIT



PERIPHERAL DEVICE

A peripheral device is hardware attached to a computer system that provides the system with extra functions but does not contribute to its primary function. Peripheral devices are controlled by the computer system they're attached to.

The monitor, keyboard, mouse, printer are examples of peripheral device



shutterstock.com - 2373503743

COMPUTER SOFTWARE

Definition: computer software are series of programs stored in the computer in order to direct the computer on task to perform.

TYPES OF COMPUTER SOFTWARE

- i. System software
- ii. Application software.

System software

System software are programs like operating system that manage the resources of the computer system and schedule its operations.

TYPES of system software

- i. Operating system: eg Windows 10, Linux, IOS, Android, Mackintosh and etc.

NOTE

- ii. Translators: eg editor, compiler and interpreter
- iii. Tools and utility software: Eg Antivirus

MACKINTOSH

MacOS is the computer operating system (OS) for Apple desktops and laptops. It is a proprietary graphical OS that powers every Mac.

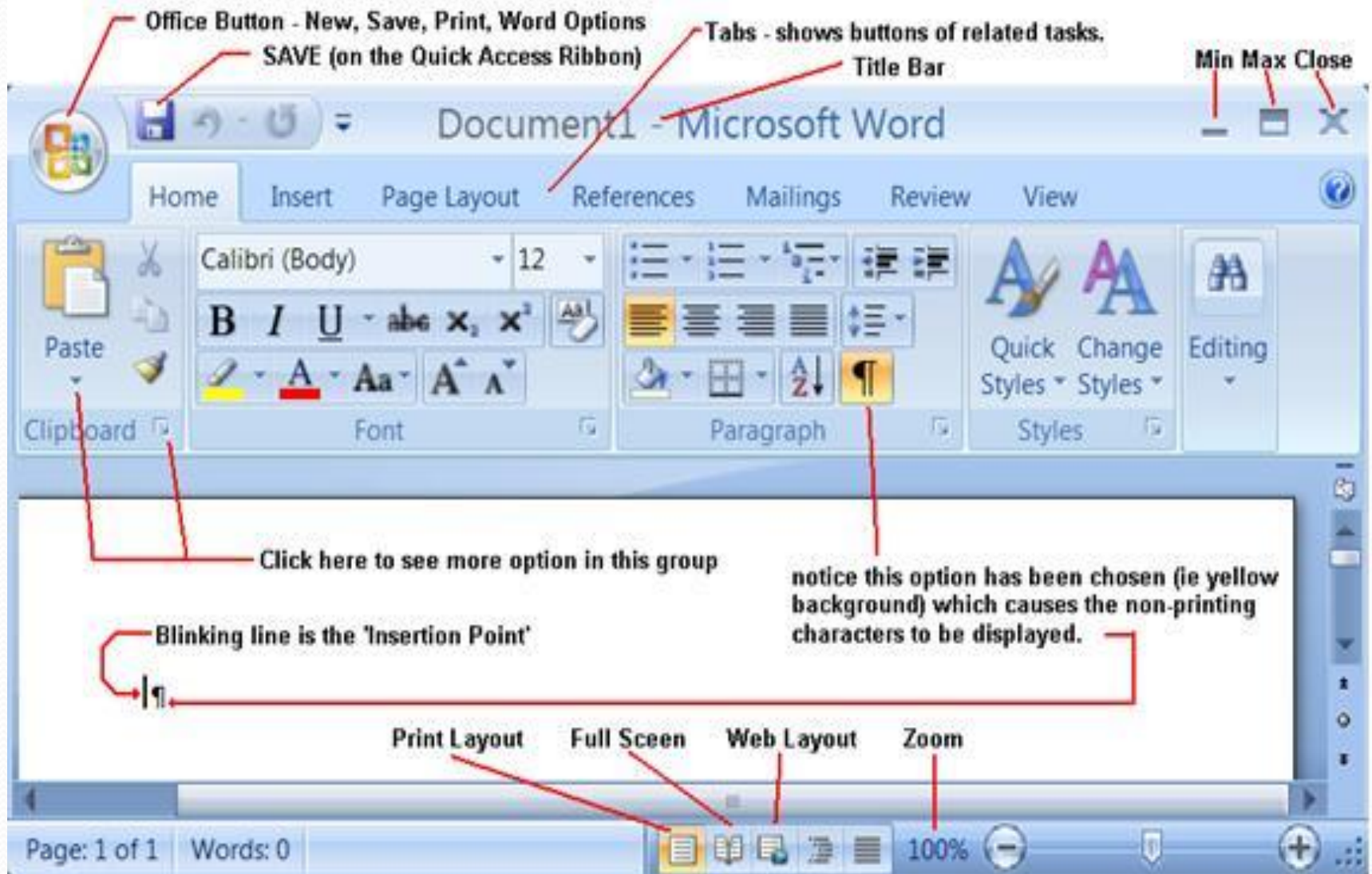
Utility software is a program or tool that performs specific tasks to enhance productivity, efficiency, functionality, or maintenance of a computer system. These utilities are designed to assist users in managing and optimizing their computing experience.

In computing, a compiler is a computer program that translates computer code written in one programming language (the source language) into another language (the target language).

Application software

Definition: Application software are application packages or programs stored in the computer in order to enable the user perform a specific task.

MICROSOFT WORD INTERFACE



Types of Application Packages

- i. Word Processing Package eg: MS word, note pad, word pad
- ii. Spread Sheet Package. Eg: MS excel, lotus 123
- iii. Database Package eg: MS Access, Dbase, SQL, Oracle, etc
- iv. Graphics packages eg. Corel Draw, photo shop, paint etc
- v. Games eg. Mavis beacon, road rash etc
- vi. Statistical Packages
- vii. Web Development Package



QUIZ

Answer these questions

Using Microsoft Word , how do you open a new blank space to type-
and how do you save your work.



**END OF FIRST TERM NOTE
GOOD LUCK !!!**