

Characteristics of Computer System

The 10 characteristics of computer systems can be defined as the silent features computers possess from time to time.

As the overall development of computer technology changed the **basic characteristics of the modern computer** have increased dramatically.

Before some years computers were just used for some calculation or for some specific task, but nowadays personal computer has reached each and every part of human life and one cannot imagine their life without the use of these devices. Modern computers are successful in making a huge impact on society.

Because of the more advanced features of modern computers, they have gained an important place in human society and one cannot imagine our daily routine and life without their use.

From schools, and institutions to hospitals computers are everywhere.

The personal computer has taken the human workload on their shoulders and provided us with Great **AND** Amazing results.



Complete List and Explanation on Computer Characteristics

The 10 Basic Characteristics of Computer are as following

- Speed

- Accuracy
- Memory
- Diligence
- Versatility
- Reliability
- Low Cost & Reduced Size
- Automatic
- No Feeling & No IQ

#1 Speed

Hmmm let's talk about speed, computers have an incredible speed with accuracy that is beyond human capabilities, Not only do they have speed but they speed with accuracy and Pinpoint solutions to every problem that arises before them.

The speed of the computer is considered one of the most important characteristics of a computer.

As per human beings, the smallest unit of time is considered to be a second, but not for computers seconds are further divided into *milliseconds, microseconds, nanoseconds, and picoseconds*.

The powerful personal computer can work almost 5 billion instructions per second.

When we discuss the speed of computer milliseconds are a hundredth of a second, microseconds are the millionth of a second, nanoseconds are the billionth of a second, and picoseconds are the trillionth of a second.

Speed is primarily the **main characteristic of computers**, their speed is measured in terms of **GIGAHERTZ and MEGAHERTZ**.

They can solve complex to complex numerical and logical problems with ease compared to human beings.

#2 Accuracy

Computers have great speed and are unbelievably deadly accurate.

The Errors occur due to improper or wrong or inaccurate input given to the computer system. Computers primarily depend upon inputs.

Say if a user enters wrong or improper or inaccurate information into the computer obviously the output generated by them will be wrong, improper, or inaccurate.

The Errors we received while using a personal computer are generally called "Human Errors" or the errors of programmers who write a program for better computer functions.

GIGO (Garbage In Garbage Out) is a well-known term used for computer accuracy, if the input is wrong or inaccurate the output will also be wrong and inaccurate.

#3 Memory

This is also one of the most **essential characteristics of computers** these days they can store or save almost any volume of data due to their high storage capabilities.

Once the data or instruction is saved to the computer memory it remains in the memory, until and unless someone deletes it, users can recall or retrieve the data anytime, at any location they require,

As human being tends to forget small information given to them, these machines stores all the information that was given to them permanently.

These Machines can store the data as long as the user desire. The measurement of memory is **MEGABYTES (MB), GIGABYTES (GB), and TERABYTES (TB).**

Hard disk and pen drives are examples of memory.

Every piece of information given to the computer can be recalled or retained by the user whenever they request or demand.

Even after several years, the information recalled would be 100% accurate as the day when it was fed to the computer system.

A computer system forgets any bit of information when it is asked by the user.

#4 Diligence

They can work long hours without tiredness or boredom with the same speed and accuracy. As the computer is a machine it does not refuse to work and works for hours and hours with the same consistency.

But on the other hand, a human being can get easily tired of the same work repeatedly and can lose their concentration, speed, and accuracy because humans suffer from tiredness, and laziness, unlike machines.

#6 Versatility

They can perform several tasks at the same time, such as user can play songs, work on documents, search for any documents on the hard disk, surf the net, downloading software, and calculating.

A computer can perform several functions at the same time with the same speed, accuracy, and with consistency.

Unlike humans, computers are far more versatile.

Due to modern computers' amazing features and characteristics, they have easily replaced their counterparts and entered human's daily routine life.

#7 Reliability

They are reliable machines, and because of their reliability of many organizations, institutions, and companies rely on them hugely.

They can store huge amounts of data and can be recalled or retrieved quickly at any time or any place as the user demands.

The errors that occur in the computer are all human errors.

Once given a huge task or operation they complete the work without any excuses and people or users can rely on them.

#8 Low Cost & Reduced Size

With the advancement in the development of computer hardware and software technology, the cost of PC has decreased drastically and has reached the majority of humans.

Due to its low-cost hospitals, institutions, government sectors, companies, and end-users have welcomed them with open hands.

Due to low cost and reduced size, they have reached every person on the planet.

We use our PC daily to imagine the cost of a computer in the 1960s you definitely not have dreamed of buying a computer at that age this is the major factor that PC has reached billions of people around the world.

#9 Automatic

They can perform automatically when assigned a task or operation say you have started a download of movies the computer will download the entire movie in spite the user is present or not without any interruption unless there are network errors or connectivity issues.

They can perform huge numerical and logical calculations when given proper instruction automatically.

Even pilots can hand over the controls to a computer as they can fly huge aircraft which is called **AUTO-PILOT** Mode.

#10 No Feeling & No IQ

They do not have feelings and self-IQ. They do not feel anything unlike humans i.e. tiredness, boredom, laziness, envy, or jealousy.

As they do not have their own IQ they entirely depend upon humans for input, the computer cannot take their own decisions based on logic.

PC has errors only when an input is wrong or incorrect,

Computer scientists are working on **AI (Artificial Intelligence)** which will make them so powerful and accurate that they will make their own decision, and logic when giving some instruction.

This type of computer will have unbelievable characteristics which will change entire **Generations of computer systems**.

Classification of Computer According to Size and Application

The computer are classified in four types according to size and applications they are as follow.

- Micro Computer.
- Mini Computer.
- Mainframe Computer.
- Super Computer.

5 Types of Computer

Computer

- 1 Supercomputer.
- 2 Desktop Computer | Personal Computer [PC].
- 3 Mini Computer.
- 4 Mainframe Computers.

5 WorkStation | Server.

Types of Computers Based on Computer Generations

#	Computer Generation	Used	Language	Examples
1	First Generation	Vacuum Tubes	Machine Language	ENIAC:: Electronic Numerical Integrator and Computer. EDVAC:: Electronic Discrete Variable Automatic Computer UNIVAC 1:: Universal Automatic Computer 1
2	Second Generation	Transistor	FORTTRAN AND COBOL	IBM 7030/7094 Honeywell 400 Philco
3	Third Generation	Semiconductor	FORTTRAN, COBOL, PASCAL, BASIC, C, C++, DBASE	PDP8, IBM360, PDP11.
4	Fourth Generation	Microprocessor	C and C++, Java, Net,	Intel Pentium AMD Apple II
5	Fifth Generation	Artificial Intelligence	Prolog	PARAM 10000 INTEL IPSC-1

Positive Impacts of Computer Technology

The use and utilization of computer systems have immensely changed the overall lifestyle of humans.

Computers had dramatically impacted human society.

Computer technology has entirely changed how small and large-scale business operations, making them easier, more efficient, and more productive.

The computer technology has positively impacted business these days.

- Productivity has increased.
- Quick decision-making abilities.
- Computer technology takes care of our accounting part which makes the life of a businessman more peaceful.
- Dramatically increased communication.
- Low Costs in manufacturing.
- Technology can now be easily shared.
- Important documents can be shared easily from one end to another.

Technology unknowingly has become an integral part of our lives we cannot imagine our lives without the use and utilization of technology.

Computers and mobiles had made interaction more convenient and easier.

The computer technology has impacted on certain areas of life they are included here.

- Computers and mobile have drastically improved online learning.

- Learning and sharing skills, information, and knowledge can be done with just a few clicks.
- Online shopping has received a revolutionary benefit from technology.
- Research and Online trading had a boost with the use of computers and the internet.
- Reduced time and effort while completing tasks and jobs when done manually.
- Watching movies, and songs, and playing games online is a part of the new entertainment era.
- It has made life more convenient, easier, and accessible for everyone.
- With the use of computer technology, you can work from anywhere at any time that is more convenient for you.
- Computer technology has entirely changed the way we live, work, play, and learn.

The limitations of the computer

Computers are the most important and crucial part of our lives, one can not imagine our life without the use and utilization of modern technology.

Starting from online shopping, paying bills, mobile recharge, fast tag recharge, etc, can be easily done with few clicks.

Computers are one of the most powerful devices that are invented, have eventually changed the working style of the human race.

Let us talk about some of the few limitations of computer that cannot be ignore.

1. A computer with huge processing power can not solve all the problems, even using Artificial Intelligence, Machine Learning, and Data Science.
2. Computers cannot replace human intelligence.
3. Computer technology has limitations on RAM and Processing power.
4. They have limited storage capacity.
5. Unable to handle more complex and logical problems.
6. Unreliable computer hardware and software.
7. The biggest limitation of computers is that they are prone to get hacked.
8. Viruses also cause severe problems when working with computers that eventually hamper computer performance.

Some common limitations of computers are

limitations of Computers

1. Lack of Intelligence
2. No Feeling
3. GIGO
4. Lack of Common Sense
5. Virus Threat
6. Unable to Learn
7. Power Dependency
8. Can't Take Decisions on Own
9. Network And Hardware Problems
10. Needs regular updates and Upgrades

What is a Computer?

The computer system is nothing but an electronic device that is designed and developed for performing the complex operation with high speed and amazing accuracy.

The computer speed entirely depends on the processor they utilize. The speed of the processor is measured in **MHZ and GHZ**.

The computer is capable of performing arithmetic and logical operation with speed and efficacy.

The word computer is derived or taken from a Latin word "Computare".

Some important parts and components of computer systems are.

- Processor.
- Motherboard.
- RAM [Random Access Memory].
- Hard Disk Drives.
- Monitor.
- Cabinet.
- Power Supply.
- Keyboard.
- Mouse.

How do Computers Work?

The computer mainly works with input and output. The computer system presents proper and accurate results if and only if the input given to them is authenticated and accurate.

The computers work with common principal "GIGO". Garbage In Garbage Out.

Primarily computer system receives its input from the keyboard, mouse, microphones, and other peripherals devices, later this input is processed using computer processing power.

Further, the processed results can be displayed using **output devices of computer system**.

Examples of Input devices of computer.

1. Keyboard
2. Mouse
3. Scanner
4. Trackball
5. Joystick
6. Light Pen
7. Touch Screens
8. Optical Card Reader (OCR)
9. Magnetic Ink Character Recognition (MICR)
10. Optical Bar Code Reader (OBR)
11. Voice Recognition Devices
12. Optical Mark Reader (OMR)

Some Common examples of output devices of computer

1. Monitors
2. Touch Screens
3. LCD Monitors or LED Monitors
4. Printers
5. Speakers
6. Headphones
7. Sound Cards
8. Plotters
9. Projectors

The **Central Processing Unit [CPU]** commonly known as the “**Processor**” is primarily responsible for executing all operations and jobs assign to them.

It processes all arithmetic and logical operations at high speed and incredible accuracy.

1. The computer system performs calculations and stores them in **computer memory** for further utilization.
2. The computer system received raw data from outside the world and further processes their later output is received with the help of an output device in human-readable form.

Five Generations of Computer

#	Computer Generations	Timeline	Hardware
1	First Generation of Computer	1940-1956	Vacuum Tubes
2	Second Generation of Computer	1956-1963	Transistor
3	Third Generation of Computer	1964-1971	Integrated Circuit (I.C.)
4	Fourth Generation of Computer	1971-1980	Microprocessor
5	Fifth Generation of Computer	1980- Till Now	Artificial Intelligence

- First Generation of Computer (1940-1956)
- Second Generation of Computers(1956-1963)
- Third Generation of Computers(1964-1971)
- Fourth Generations of Computers:: (1971-To 2000)
- Fifth Generations of Computers (Present and Beyond)

Learn Computer Characteristics Using Video

Characteristics of Computer System

Four Basic Functions of Computer

The Four Basic Functions of Computer System are Mentioned Below ::

Functions of Computer

- Input
- Output
- Processing
- Storage

Who is the Father of Computers?

Charles Benjamin Babbage is known as **“The Father of Computer”**. Charles Babbage Invented the first mechanical computer then later led to more complex designs.

The Invention of the mechanical computer is one of the great inventions of all time.

Charles Babbage (The Great) was born on 26 December 1791 London, England and Died 18 October 1871 Marylebone, London.

He was popularly known for his work in the fields of Mathematics, engineering, politics, economy, computer science, philosophy, and computing.

Charles Babbage invented the machine named **“Differential Engine”** Later Babbage additionally invented the machine an Automatic computing mechanism and named it **“Analytical Engine”**.

Characteristics of Computer Diligence

Various important devices and components in the modern computer system are crucial for proper computer functionality and the booting process.

There are two types of computer hardware devices.

1. Internal Computer Devices.
2. External Computer Devices.

These computer devices should be periodically updated with their software. Computer software enables computer hardware devices to function to their full potential.

Without software, hardware devices become useless.

All applications and system software should be updated regularly to avoid system instability from malware, viruses, and other phishing attacks.

The computer hardware and software applications should be compatible to function properly.

Computer diligence should be a core habit of the computer user to ensure that the computer’s life is extended.

With proper care, the computer can run smoothly and efficiently.

Characteristics of Computer Diligence

The computer system should be maintained with discipline to avoid.

1. Computer Crash.
2. System Misbehaviour.
3. Slow Speed.
4. Corrupted Operating System.
5. Frozen Screens.
6. Slow Internet Speed.
7. Computer Restart.

Characteristics of Computer Speed

Computer speed is one of the computer system's most important features and characteristics.

The modern computer system can perform mathematical calculations with amazing speed with incredible **accuracy**.

The computers can perform multiple tasks and operations given to them instantly with the same intensity and speed.

The computer speed entirely depends upon the configuration it has

The speed of your computer will depend on several factors such as

Characteristics of Computer Speed

1. Central Processing Unit [CPU].
2. Random Access Memory [RAM].
3. Computer Motherboard.
4. Hard Disk Space.

CPU

The central Processing Unit is primarily responsible for the speed of the computer system. The processor's speed is measured in **MHZ and GHZ**.

The computer works with milliseconds, microseconds, nanoseconds, and picoseconds. The computer system can perform billions of instructions per second.

They can solve complex numerical problems in a fraction of a second.

The CPU is also called "**The Brain and Heart of the Computer**". The CPU has amazing processing and handling power to execute tasks and operations given to them.

The CPU determines how fast your computer, laptop or mobile phone will work. The powerful CPU will process and run applications like **Word Processor and Spreadsheets**.

The computer speed in FLOPS [Floating Point Operations Per Second].

Top Processor Brands

1. Intel.
2. AMD.
3. Cyrix.
4. Qualcomm Inc. (QCOM)

Random Access Memory [RAM].

There are different types of Memory in computer systems.

- Internal Processor Memory
- Main memory | RAM (Random Access Memory) | Primary Memory
- Cache Memory
- Storage | Secondary Memory

RAM plays an important role in computer speed. It is said that more Memory means more processing power or speed.

The word processor and spreadsheets need lots of Memory to execute properly.

Modern system and applications software consumes lots of Memory to function properly; therefore, you must choose an advanced processor and RAM to execute and run applications at considerable speed.

Processor and Memory work in a team; therefore, they must be compatible with deriving better and enhanced performance.

A slow computer can be very frustrating and time-consuming, especially if you are trying to edit documents or access websites.

Hard Disk Drives

Hard disks are HDD, FIXED DISK, and Hard Disk Drives.

A hard disk drive is a **non-volatile Memory** in nature. It does not tend to lose data and information even if there is a power loss or failure.

The hard disk drives can store data and information permanently, and users can derive or access the data whenever they wish.

SSD [Solid State Drive] is considered the more advanced hard disk version; they work and access data faster than old fashion hard disk drives.

The hard disk was invented in 1956 by Rey Johnson, an inventor and computer pioneer who worked for IBM, also known as the father of the Hard Disk Drive.

Characteristics of Computer Automation

A computer system is an automated machine that performs and completes tasks and operations as instructed.

The input presented by users is processed and handled with the help and assistance of the processing and handling power of the CPU [Central Processing Unit], and later it presents the output in the form of **hard copy** or **soft copy** using output devices of computer systems.

Characteristics of Computer Automation

Some output devices of a computer are

1. Monitors.
2. Printers.
3. Plotters.
4. VDU.

Some input devices of a computer system are.

1. Keyboard.
2. Mouse.
3. Scanner.
4. Joystick.

Popular Computer Brands

Manufacturer

- 1 HP
- 2 Lenovo
- 3 DELL
- 4 HCL
- 5 Acer
- 6 MI
- 7 MacBook

Frequently Asked Questions [FAQs] on Computer Characteristics

What are the Major Characteristics of Computers?

Speed
Accuracy
Memory
Diligence
Versatility
Reliability
Low Cost & Reduced Size
Automatic
No Feeling & No IQ

What are the Four Main Characteristics of a Computer?

Speed, Accuracy, Diligence, Versatility

Uses of Computer System

Online Trading
Online Education | Distance Learning
Research
Forecasting Weather, and Predicting Earthquakes, Volcano Eruptions
Produce Employment
Internet
In Business

Limitations of Computer System?

Lack of Intelligence
No Feeling
GIGO
Lack of Common Sense
Virus Threat
Unable to Learn
Power Dependency
Can't Take Decisions on Own
Network And Hardware Problems
Needs regular updates and Upgrades

Disadvantages of Computer

Health Issues.

Spread of Pornography

Virus and Hacking Attacks

Computer Can Not Take Their Own Decision NO IQ

Negative Effect on the Environment

Crashed Networks

The computer Can Not Work on Itself

Spread of Violence and Hatred

Online Cyber Crimes

Data and Information violation

What are the Major Computer Characteristics?

According to me accuracy, speed, and reliability are the characteristics that have made computers a must-use device for everyone.

For More Information Please Visit

<https://www.chtips.com/computer-fundamentals/characteristics-of-computer-system/>