Computer Fundamental Interview Questions

1 What is the computer system?

A computer system is a combination of memory, CPU, peripheral devices that are connected to it, and OS (Operating System).

2 List out components of a computer system

The components of a computer system are:

- CPU (Central Processing Unit) including control unit and arithmetic logic unit
- Memory like primary and secondary
- Input and output devices like keyboard mouse, printer scanner, etc.

3 What is a microprocessor?

A microprocessor is an integrated circuit having all the functionality of a central processing unit of a PC.

4 List out some computer processors

The most popular Intel computer processors are:

- Intel Celeron
- Intel Pentium
- Intel Core i3
- Intel Core i5
- Intel Core i7
- Intel Core i9

The most popular AMD computer processors are:

- AMD Ryzen 5
- AMD Ryzen 7

5 List out some popular operating system

Some popular operating systems are Microsoft Windows, OSX, and Linux.

6 What is SDLC?

SDLC stands for Software Development Life Cycle is a process that produces quality software products in less time. The stages involve by SDLC are: 1) planning, 2) design, 4) construction, 5) testing, and 6) deployment.

7 Explain the meaning of file.

A file is a named location that stores information or data permanently. It is always stored in the storage device using a file name with primary and secondary name, which is separated by a “.”(DOT).

A file is one of the basic components of computer science. A file can be defined as a location that stores information and data. Files keep data and information permanently or until the user deletes them. Files are always stored inside a storage device using the name given to the file.

8 What is a programming language?

A programming language is a collection of grammar rules for giving instructions to computer or computing devices in order to perform achieve task.

9 What is Integrated Development Environment?

An IDE is a GUI-based software program. It is designed to help programmers build applications with all the needed programs and libraries.

10 Explain the framework

The framework is a platform for making software applications. It provides the basis on which developers can build programs for a specific platform. For example, a framework may include predetermined classes as well as functions. It can be used to process inputs, manage hardware, and interact with system software.

11 What is artificial intelligence?

Artificial Intelligence or machine intelligence is a common term that is used to build smart machines capable of performing tasks. The main aim of AI is to solve problems in a way that are better and faster.

12 What is machine learning?

Machine Learning is a system that can learn from an excellent example through self-improvement and without being explicitly coded by a programmer.

13 What is deep learning?

Deep learning is computer software that mimics the network of neurons in a brain. It is a subset of machine learning and is called deep learning because it makes use of deep neural networks.

14 What is a programming language?

A programming language is a collection of grammar rules to instruct computers or computing devices to perform tasks.

As a language is required to communicate with a person, we need a specific language similar to communicating with computers. This type of language is called programming language. A programming language is a set of grammar rules for giving computers or computing devices instructions to perform and achieve a specific task. Different types of programming languages are used in computer systems to implement algorithms. Programming languages are mainly used to develop desktop applications, websites, and mobile applications.

15 What is byte stream?

Byte stream is most usually used to perform input and output for Unicode having 8 bits.

16 List out Layers of OSI Model

Layers of OSI models are: 1) Physical, 2) Application, 3) Presentation, 4) Session, 5) Transport, 6) Network, and 6) Data Link Layer.

17 Explain primary memory

Primary memory, RAM is the main memory of a computer which can be directly accessed by the Central Processing Unit (CPU). It stores temporary information until the process finishes its execution.

18 What is the internet?

The internet is a global network of a computer that offers a wide range of information and communication facility. It involves interconnected networks, using a communication protocol.

19 What is the World Wide Web (WWW)?

WWW or World Wide Web is a method of accessing information using internet media.

20 What is an Algorithm?

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An algorithm is a rule or step-by-step process that must be followed in order to solve a particular problem.

21 What is the operating system?

An Operating system (OS) is a software that acts as an interface between the end-user and computer hardware. Every computer must have at least one OS to run other programs.

22 What is cryptography?

Cryptography is the study of techniques that hide the real meaning of information. It transforms this information into a format that cannot be read by humans and vice versa.

23 What is a processor in computer systems, and why is it used?

A processor is a chip or a logical circuit used to respond and process the basic instructions to drive a particular computer. The main functions of a processor are to fetch, decode, execute, and write back the operations of an instruction. A processor is also known as the brain of any system which incorporates computers, laptops, smartphones, embedded systems, etc.

A processor contains two important parts called ALU (Arithmetic Logic Unit) and CU (Control Unit). The Arithmetic Logic Unit performs all mathematical operations such as additions, multiplications, subtractions, divisions, etc. The Control Unit is used to work like traffic police as it manages the command or the operation of the instructions. The processor is responsible for communicating with the other components such as input/output devices and memory/storage devices.

24 What are the most commonly used programming languages nowadays?

There are several programming languages used by the industries such as education, hospitals, banks, automobiles, etc. Following is the list of some most widely used programming languages:

C Language: C is a simple, popular, and flexible general-purpose programming language developed by Dennis M Ritchie in 1972 at AT&T Bells laboratory. It is called a mid-level programming language as it combines both a low-level programming language and a high-level programming language. C programming language is mainly used to design applications such as Text Editors, Compilers, Network devices, etc.

Java Programming Language: Java is a simple, secure, reliable, platform-independent, architecture-neutral, high-level programming language developed by Sun Microsystems in 1995. Java is mainly used to develop banking software, retail software, information technology, android, big data, the research community, web and desktop applications, etc. Now, Java is owned by Oracle.

Python Programming Language: It is an open-source and easy-to-learn programming language developed in the 1990s. Python is one of the most widely used user-friendly programming languages and is mostly used in **Machine learning, Artificial intelligence, Big Data, GUI**-based desktop applications, and Robotics.

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C++ Language: It is pronounced as C plus plus. It is one of the thousands of programming languages we use to develop software. **Bjarne Stroustrup** developed the C++ programming language in 1980. It is similar to the C programming language but also includes additional features such as exception handling, object-oriented programming, type checking, etc.

C# Programming Language: It is pronounced as C sharp. It is a modern, general-purpose, object-oriented programming language used with XML-based Web services on the .NET platform. It is mainly designed to improve productivity in web applications. It is easier to learn for those users who have sufficient knowledge of common programming languages like C, C++, or Java.

JavaScript Language: It is a scripting language used on both the client-side and a server-side. It is developed in the 1990s for the Netscape Navigator web browser. It allows programmers to implement complex features to make web pages alive. It helps programmers create dynamic websites, servers, mobile applications, animated graphics, games, and more.

PHP Programming Language: PHP stands for Hypertext Preprocessor. It is an open-source, powerful server-side scripting language mainly used to create static and dynamic websites. Rasmus Laird developed it in 1994. Inside the php, we can also write HTML, CSS, and JavaScript code. To save php file, file extension **".php"** is used.

R Programming Language: R is one of the popular programming languages used in data analytics, scientific research, machine learning algorithms, and statistical computing. It helps marketers and data scientists easily analyze, present, and visualize data. It was developed in 1993 by Ross Ihaka and Robert Gentleman.

Go Programming Language: Go programming language or Golang is an open-source programming language. It is used to build simple, reliable, and efficient software. It was developed by **Robert Griesemer, Rob Pike**, **and Ken Thompson** in 2007.

Ruby Programming Language: It was an open-source, general-purpose, and pure object-oriented programming language released in 1993. It is used in front-end and back-end web development. It is mainly designed to write CGI (Common Gateway Interface) scripts.

25 What are the key differences between compiler and interpreter?

Compiler	Interpreter
A compiler scans the whole program at a time.	An Interpreter translates one statement of a program at a time.

The compiler scans the whole code at a time, so if it finds any error, it shows at the end together.	The interpreter scans program code one line at a time, so the errors are shown line by line.
It is fast, and the compiled code runs faster.	It works line-by-line, so it is slow, and the interpreted code runs slower.
Compilers are difficult to implement as they cannot predict what happens at the turn.	Interpreters are best suited for the program and development environment.
Compilers are preferred for their less execution time.	Interpreters are slow in executing the object code, so they are less preferred.
Compilers convert the source code into object code.	Interpreters do not convert source code into object code; instead, they scan it line by line.
Compilers don't require source code for later execution.	Interpreters require source code for later execution.
The target program executes independently in compilation, so it does not require the compiler in the memory.	The interpreters exist in the memory during interpretation.
Examples of programming languages that use compilers are C, C++, C#, etc.	Examples of programming languages that use interpreters are Python, Ruby, Perl, SNOBOL, MATLAB, etc.

26 What are the key differences between primary and secondary memory?

Memory is the most fundamental component of a computer. It is the computer's brain that stores data and information for storing and retrieving. Computer memory can be divided into two types, primary memory, and secondary memory. Primary memory is the computer's main memory that is directly accessed by the central processing unit. On the other hand, secondary memory refers to the external storage device that can be used to store data or information permanently. Both memories are used to serve the same purpose but act differently. Let's see the key differences between them:

Primary memory	Secondary memory
Primary memory is the main memory that can be directly accessed by the Central Processing Unit (CPU).	Secondary memory is first transferred to the primary memory and then accessed by the processor because the processor does not directly interact with the secondary memory.

Primary memory stores temporary information until the process finishes its execution.	Secondary memory is used to store data or information permanently. It is an external storage device.
The nature of Primary memory varies accordingly. For RAM, it is volatile. For ROM, it is Non-volatile.	Secondary memory is always Non-volatile.
Semiconductor memory devices are used for primary memory.	Magnetic and optical memory devices are used in secondary memory.
Primary memory devices are more expensive than secondary storage devices.	Secondary memory devices are not as much expensive as primary memory devices.
Primary memory is also called Main memory or Internal memory.	Secondary memory is also called External memory or Auxiliary memory.
Examples of Primary memory are RAM, ROM, Cache memory, PROM, EPROM, Registers, etc.	Examples of Secondary memory are Hard Disks, Floppy disks, Magnetic Tapes, etc.

27 Do you know who invented the First Mechanical Computer?

Well, it was Charles Babbage who invented the First Mechanical Computer, who is also known as the Father of the Computer.

The Invention of the Computer led to a Revolution in Human Civilization. It has solved Great Problems for Human Beings and has helped in many Life-Changing Inventions.

28 What are the 6 Main Components of a Computer?

Answer:

1) Storage Unit
2) Control Unit
3) Input Unit
4) Output Unit
5) Arithmetic Logic Unit (ALU)
6) Central Processing Unit (CPU)

29 How many Bits are in a Single-Byte?

Answer: Eight Bits (8 Bits)

30 How many Megabyte makes one Gigabyte?

Answer: 1024 MB (1000 MB Standard)

31 Who is Called Livewares?

Answer: People who work with Computers

32 Who Invented the Mechanical Calculator known as Pascaline?

Answer: Blaise Pascal

33 Which Computer Unit Performs all Mathematical and Logical Functions?

Answer: Central Processing Unit (CPU)

34 Which Electronic Components were used in First Generation Computer?

Answer: Vacuum Tubes

35 **Which Program runs on a Computer when Computer Boots up?**
Answer: Operating System

36 **What Type of Devices are Keyboard, Mouse, and Joystick?**
Answer: Input Devices

37 **What was the First Version of Windows called?**
Answer: Interface Manager (1983)

38 **What was the Code Name for Windows Vista?**
Answer: Longhorn

39 **What Type of Format is HTML?**
Answer: Document File Format

40 **What is the Name of the Software that Allows us to Browse the Internet?**
Answer: Browser

41 **Why do Cache and Main Memory lose their Contents when the Power is Off?**
Answer: Because they are Volatile
Explanation: Volatile Memory is stored in a Computer Memory that only maintains its data while the device is powered.

42 **Which Technology is used in a CD Drive?**
Answer: Optical Laser

43 **Which type of Software are MS Excel, MS PowerPoint, and MS Word?**
Answer: Application Software

44 **Which Company made Windows Operating System?**
Answer: Microsoft Corporation

45 **What is the Name of the First Microprocessor?**
Answer: Intel 4004

46 **What is the "Intel Company" Famous for?**
Answer: Intel is the world's Largest Semiconductor Chip manufacturer. Intel's processors are found in most of the Personal Desktop Computers and Laptops

47 **What are C, C++, C#, Java, PHP, and Python?**
Answer: Computer Programming Languages

48 **What are .doc, .pdf, .txt, .png, and .JPG?**
Answer: Computer File Extensions

49 **What is the name of the Arrow Symbol Position Indicator on a Computer Display?**
Answer: Cursor

50 **What is the Name of the Process when the Operating System Runs?**
Answer: Booting

51 **Which Computer Memory Stores Data "Temporarily"?**
Answer: Random Acces Memory

52 **What is the name of the Set of Instructions that directs a Computer's Hardware to perform a Task?**
Answer: Computer Program

53 **Which Programming Language was used by the First Generation Computers?**
Answer: Machine language

54 **Which Programming Language was used by the Second Generation Computers?**
Answer: Assembly language

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55 Name the First General-Purpose Electronic Computer?
Answer: UNIVAC

56 Who is known as the Human-Computer of India?
Answer: Shakuntala Devi

57 Which Programming Language is used by Apple Computers?
Answer: Swift Language

58 Who is the Father of the Computer?
Answer: Charles Babbage

59 Who is the Father of Motherboard?
Answer: Reed Ghazala

60 When is World Computer Literacy Day?
Answer: 2 December

61 Name the Computer Engineer who received Nobel Prize for literature in 2003?
Answer: J.M. Coetzee

62 Which is the Physical Part of the Computer System?
Answer: Computer Hardware

63 Which Electronic Device Processes the Data converting it into Information?
Answer: Processor

64 What are the Three Types of Computer Bus?
Answer:
1) Data Bus
2) Control Bus
3) Address Bus

65 Who Invented WWW (World Wide Web)?
Answer: Sir Tim Berners-Lee (1989)

66 What does BIOS stand for?
Answer: Basic Input/Output System

67 Where does a Computer perform Addition and Comparison of Data?
Answer: Central Processing Unit (CPU)

68 Where is Temporary Data stored in a Computer?
Answer: Random Access Memory (RAM)

69 Where is Permanent Data stored in a Computer?
Answer: Hard Drive or Solid State Drive (SSD)

70 In what form is the Data Stored in the Memory of a Computer?
Answer: Decimal, Binary, Hexadecimal, etc

71 Who is the Father of Artificial Intelligence (AI)?
Answer: John McCarthy

72 Name of the World's First Successful Electronic Computer?
Answer: Electronic Numerical Integrator and Computer(ENIAC)

73 What is Computer Virus?
Answer: It is a malicious Software or a Program that can reproduce itself by rewriting other accessible PC programs and embedding its own code. After Successful replication, the affected areas are said to be "infected" with a Computer Virus.

74 What is the name of the Standalone Malware Computer Program that replicates itself to spread to other Computers?
Answer: Computer Worm

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75 **How many Bits is One Nibble?**
Answer: 4 Bits

76 **What is the Name of the Computer's Memory?**
Answer: RAM

77

List Of Top 10 Programming Languages and Their Developers

No.	Language	Developer
1	**BASIC**	John Kemeny & Thomas Kurtz
2	**C**	Dennis Ritchie
3	**C++**	Bjarne Stroustrup
4	**C#**	Anders Hejlsberg
5	**Java**	James Gosling
6	**JavaScript**	Brendan Eich
7	**Perl**	Larry Wall
8	**PHP**	Rasmus Lerdorf
9	**Python**	Guido van Rossum
10	**Swift**	Chris Lattner

78 **Basic List Of All Computer Related Full-Forms**

No.	Acronym	Full-Form
1	**BASIC**	Beginners All-purpose Symbolic Instruction Code
2	**Bit**	Binary Digit
3	**BIOS**	Basic Input/Output System
4	**CD**	Compact Disc
5	**COMPUTER**	Common Operating Machine Purposely Used for Technological and Educational Research
6	**CPU**	Central Processing Unit
7	**DVD**	Digital Video Disc
8	**FAT**	File Allocation Table
9	**HDD**	Hard Disk Drive
10	**HTTPS**	Hypertext Transfer Protocol Secure

11	**IBM**	International Business Machines
12	**I/O**	Input & Output
13	**ISP**	Internet Service Provider
14	**UPS**	Uninterruptible Power Supply
15	**URL**	Uniform Resource Locator.
16	**VIRUS**	Vital Information Resources Under Seize
17	**WiFi**	Wireless Fidelity
18	**WAN**	Wide Area Network
19	**WORM**	Write Once Read Many
20	**WLAN**	Wireless Local Area Network

79 Which Type of Computer is found in a Digital Watch?
Answer: Embedded Computer

80 Name of the Information in Memory which is no Longer Valid or Wanted?
Answer: Garbage

81 Who designed the QWERTY Keyboard?
Answer: Christopher Latham Sholes

82 What is the name of the First Operating System for Apple Computers?
Answer: Apple DOS

83 What does Mac mean in Apple Computers?
Answer: Macintosh

84 What did Charles Babbage (The Father of Computers) invent?
Answer:
1) Difference Engine
2) Pilot (Locomotive)
3) Analytical Engine

85 What is Picture Element known in Short?
Answer: Pixel

86 What is the Name given to Good Hackers who discovers Security Vulnerabilities Legally?
Answers: White Hat Hackers

87 What is the Symbol used by the Hexadecimal Number System?
Answers: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 and A, B, C, D, E, F

88 Who Wrote the First Implemented Compiler?
Answer: Grace Hopper

89 Who is the Father of Coding?
Answer: Dennis MacAlistair Ritchie

90 What is the use of RAM and ROM?
Answer:

RAM: Temporary Memory when the Computer is Running
ROM: Boot the Computer

91 What is the Main Difference between Microprocessor and Microcontroller?
Answer: Microprocessor has CPU Inside Them and Microcontroller has a CPU in Addition.

92 Which Keys are Called as Modifiers in a Keyboard?
Answer: Shift, Function, Control, Alt

93 When was Gmail Launched?
Answer: 1 April 2004

94 What are IC Chips made of?
Answer: Silicon

95 Name of the first Email Service?
Answer: ARPANET mail

96 What is an Example of Non Volatile Memory?
Answer: ROM, Flash Memory, SSD, Hard Disk

97 Who Discovered the Internet?
Answer: Vinton Gray Cerf and Robert Elliot Kahn

98 Name the World's First Search Engine?
Answer: Archie

99 What is Cache?
Answer: Type of Data stored in a Computer's Memory so that future requests for that Data can be Served Faster.

100 What is the full form of PDF?
Answer: Portable Document Format

101 What Is The Difference Between Save And Save As?
Answer :

- Use SAVE when you are revising an existing document.
- Use SAVE AS when you are creating a new document from scratch or an existing document. This will keep the original document untouched in its original format and create a new document with a new name.

102 How Can We Find Out Basic Information About Our Computer?
Answer :
We can get the basic information about our computer by following below steps.

1. Right Click at my computer icon.
2. Click Properties.
3. General tab will show the processor and ram information.
4. And Hardware Tab >> Device Manger will show the entire hardware resources attached with you computer.

103 What Is Driver Software?
Answer :
Driver software is software that works as a translator between another program and some piece of hardware. In the software industry, there are generally standard ways to do things.

There are many different types of hardware, however, and each piece of hardware may have its own protocol (or "language"). The driver software receives standard signals from another program, then translates these into commands for a particular piece of

hardware. This way a program can be written in a standard way, and it will work with many different devices.

104 How Do We Open A Rar File?

Answer :

RAR file (Resource Adapters aRchive) is a compressed file (like a Zip file). You need a decompressing program to see the contents of a RAR file. One you can use is called WinRAR.

105 What Steps Should I Take To Replace The Bios Battery?

Answer :

It is better if you go to the BIOS first and copy the settings and have them before you try to replace the battery, in case your system does not use the default settings. Once this is done then you can safely replace the battery and if necessary duplicate the BIOS settings you had before.

106 Can A Fat32 Drive Be Converted To Ntfs Without Losing Data?

Answer :

Yes it can. To do so go to "Accessories" in the Start Menu and select "Command Prompt". You'll see a DOS-like box open to a command prompt.

107 How Can We Find Out Basic Information About Our Computer?

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1. Right Click at my computer icon.
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4. And Hardware Tab >> Device Manger will show the entire hardware resources attached with you computer.

108 What Is Active Window?

Answer :

The current window that is being used. The window you are working currently.

Example: If you are working on Paint so the active window is paint, if you working on Notepad so that time Notepad is Active window.

109 What Is Asynchronous Sram?

Answer :

Static random-access memory (SRAM) is a type of semiconductor memory that uses bistable latching circuitry to store each bit. The term static differentiates it from dynamic RAM (DRAM) which must be periodically refreshed. SRAM exhibits data remanence,[1] but is still volatile in the conventional sense that data is eventually lost when the memory is not powered.

Asynchronous SRAM are available from 4 Kb to 64 Mb. The fast access time of SRAM makes asynchronous SRAM appropriate as main memory for small cache-less embedded processors used in everything from industrial electronics and measurement systems to hard disks and networking equipment, among many other applications. They are used in various applications like switches and routers, IP-Phones, IC-Testers, DSLAM Cards, to Automotive Electronics.

110 What Is Bios (basic Input And Output Software)?

Answer :

BIOS stands for Basic Input and Output Software. The BIOS is software that controls the most fundamental operations of a computer and a BIOS is necessary in order to start a computer. Without a BIOS, a computer would not know how to communicate with its hard disk and other devices. The BIOS is stored on a ROM (Read-Only Memory) computer chip inside the computer. Many computers in the past few years use "Flash EPROM" chips, which means the BIOS chip can be reprogrammed with an updated BIOS. A BIOS may need to be updated to fix bugs, such as the year 2000 bug, or an update may be necessary in order to support new hardware protocols.

111 What Is Cascade?

Answer :

An arrangement of Windows so each window is neatly stacked with only the title bar of each window is showing.

112 What Is Backward Compatible?

Answer :

A program is backward compatible if it can use files from an older version of itself. For a file saved in the program to be backward compatible, it must be possible to open the file in a previous version of the program.

113 What Is Control Panel?

Answer :

A system utility that comes with Windows that allows the use to change a variety if different Windows and system settings.

Start -> Control Panel

114 What Is Dialog Box?

Answer :

This is a small window that is demanding your attention (Usually to ask e.g 'Do you want to continue?'). You must respond before you can continue using the program that displayed the dialog box. A dialog box does not have a minimize or maximize button and does not show up on the taskbar. It is only a portion of its "parent" program. Most dialog boxes have a cancel button.

115 What is a toolbar?

Answer:

A group of option buttons in some programs that usually make performing certain actions quicker and easier.