

Computer basics

Ans 1) it is an electronic programmable device. It stores information and generates output according to the input provided.

Ans 2) Random Access Memory is a device made up of Semiconductor. By its nature it is usually fast. We use this to provide input to the CPU. Hard disks are usually slow, so that makes the system unstable as CPU is too fast compared to Hard Disk. So we use RAM instead of a hard disk to provide input.

Ans 3) CPU

Ans 4) Keyboard

Ans 5) Output Devices are monitors, printers , headphones etc...

Ans 6) Mouse

Ans 7) Machine level language code.

Ans 8) Input Devices are mouse, keyboard , cameras etc...

Fundamentals of java

Ans 1) Programming is a type of a language which the computer understands. It is always in the form of 0 or 1.

Ans 2) We need a Language to communicate with anyone and in order to communicate with the Computer, we need a Programming language so that we can provide input to the Computer and it will generate an output.

Ans 3) features of java are :

- a) Platform Independent
- b) Easy to use

- c) Portable
- d) Robust

Ans 4) An object is an instance of class that executes the class. Once the object is created it takes up space like other variables in memory.

Ans 5) class is a collection of objects and it does not take any space in memory.

Ans 6) The main is the starting point for JVM to start execution of a java program. Without the main method, JVM will not execute the program.

Public - It is an access specifier. We should use a public keyword before the main method so that JVM can identify the execution point of the program . If we use private, protected , and default before the main method, it will not be visible to JVM.

Static - You can make a method static by using the keyword static. We should call the main method without creating an object. Static methods are the methods which are invoked without creating the objects, so we do not need any objects to call the main method.

Void - In Java , every method has the return type. Void keyword acknowledges the compiler

Main- It is the default signature which is predefined in the JVM. It is called by JVM to execute a program line by line and end the execution after completion of this method. We can also overload the main method.

String args - the main method also accepts some data from user. It accepts a group of strings, which is called a string array. It is used to hold the command line arguments in the form of string values.

Java Variables and Data types

Ans 1) Statically typed - it is a programming language which consists of information about the data you want to store in the variable.

For ex - `int age = 18;` here `int` is the information about the data.

Examples of statically typed languages are `c`, `c++`, `java` etc..

Dynamically typed - it is a programming language which does not require information about the data you want to store.

Examples are `python`, `javascript` etc..

Ans 2) it is the name of a memory location. it holds the value when the program is executing.

Ans 3) we use assign operator(=) to assign the value.

Ans 4) `Byte`, `short`, `int`, `long`, `double`, `char`, `string`, `boolean`.

Ans 5) identifiers are names used for identification class name, method name, variable name and more are used as an identifier.

Ans 6)

- a) Arithmetic operators
- b) Logical operators
- c) Relational operators
- d) Assignment operators
- e) Unary operators
- f) Bitwise operators.

Ans 7) increment operators- when you are changing the variable type from smaller memory data type to big memory data type

For ex - we want to change `int` (4 bytes) to `long` (8bytes)

Decrement- when you want to change from big data type to smaller.

