**Core Java :: Interview Questions and Answers**

1. **What is the most important feature of Java?**

Java is a platform independent language.

1. **What do you mean by platform independence?**

Platform independence means that we can write and compile the java code in one platform (eg Windows) and can execute the class in any other supported platform eg (Linux,Solaris,etc).

1. **What is a JVM?**

JVM is Java Virtual Machine which is a run time environment for the compiled java class files.

1. **Are JVM's platform independent?**

JVM's are not platform independent. JVM's are platform specific run time implementation provided by the vendor.

1. **What is the difference between a JDK and a JVM?**

JDK is Java Development Kit which is for development purpose and it includes execution environment also. But JVM is purely a run time environment and hence you will not be able to compile your source files using a JVM.

1. **What is the base class of all classes?**

java.lang.Object

1. **Does Java support multiple inheritance?**

Java doesn't support multiple inheritance.

1. **What is the inheritance?**

Inheritance is a mechanism in which one class acquires the property of another class. For example, a child inherits the traits of his/her parents. With inheritance, we can reuse the fields and methods of the existing class. Hence

1. **Is Java a pure object oriented language?**

Java uses primitive data types and hence is not a pure object oriented language.

1. **What is primitive data types?**

A primitive data type specifies the size and type of variable values, and it has no additional methods**.** Primitive data types - includes byte, short, int, long, float, double, boolean and char.

**Numbers :**

Primitive number types are divided into two groups:

Integer types stores whole numbers, positive or negative (such as 123 or -456), without decimals. Valid types are byte, short, int and long. Which type you should use, depends on the numeric value.

Floating point types represents numbers with a fractional part, containing one or more decimals. There are two types: float and double.

1. **Primitive data types and Non-Primitive data type ?**

Non-primitive data types are called reference types because they refer to objects.

The main difference between primitive and non-primitive data types are:

* Primitive types are predefined (already defined) in Java. Non-primitive types are created by the programmer and is not defined by Java (except for String).
* Non-primitive types can be used to call methods to perform certain operations, while primitive types cannot.
* A primitive type has always a value, while non-primitve types can be null.
* A primitive type starts with a lowercase letter, while non-primitive types starts with an uppercase letter.

The size of a primitive type depends on the data type, while non-primitive types have all the same size.

1. **What is data type in java?**

Data type specifies the size and type of values that can be stored in an identifier. The Java language is rich in its data types.

1. What do you mean by variable in Java?

A variable is a container that holds values that are used in a Java program. Every variable must be declared to use a data type

1. What is the difference between variable and data type?

A variable is a container which holds the value while the java program is executed. A variable is assigned with a data type.

Variable is a name of memory location. There are three types of variables in java: **local, instance and static.**

There are two types of data types in java**: primitive and non-primitive.**

1. **What is Local Variable?**

*Local variables are those which are declared within a block of code like methods. Local variables should be initialized before accessing them.*

A variable declared inside the body of the method is called local variable. You can use this variable only within that method and the other methods in the class aren't even aware that the variable exists.

A local variable cannot be defined **with "static" keyword.**

1. **What is Instance Variable?**

*Instance variables are those which are defined at the class level. Instance variables need not be initialized before using them as they are automatically initialized to their default values*

A variable declared inside the class but outside the body of the method, is called instance variable. It is not declared as static.

It is called instance variable because its value is instance specific and is not shared among instances.

1. **What is Static variable?**

A variable which is declared as static is called static variable. It cannot be local. You can create a single copy of static variable and share among all the instances of the class. Memory allocation for static variable happens only once when the class is loaded in the memory.

1. **class** A{
2. **int** data=50;//instance variable
3. **static** **int** m=100;//static variable
4. **void** method(){
5. **int** n=90;//local variable
6. }
7. }//end of class
8. **How to define a constant / final variable in Java?**

The variable should be declared as static and final. So only one copy of the variable exists for all instances of the class and the value can't be changed also.

static final int MAX\_LENGTH = 50; is an example for constant.