*Class, Object and Constructor*

Classes and Objects are basic concepts of Object Oriented Programming which revolve around the real life entities.

**Class**

A class is a user defined blueprint or prototype from which objects are created.  It represents the set of properties or methods that are common to all objects of one type. In general, class declarations can include these components, in order:

1. ***Modifiers*** : A class can be public or has default access (Refer [this](https://www.geeksforgeeks.org/access-specifiers-for-classes-or-interfaces-in-java/) for details).
2. ***Class name:*** The name should begin with an initial letter (capitalized by convention).
3. ***Superclass(if any):*** The name of the class’s parent (superclass), if any, preceded by the keyword extends. A class can only extend (subclass) one parent.
4. ***Interfaces(if any):***A comma-separated list of interfaces implemented by the class, if any, preceded by the keyword implements. A class can implement more than one interface.
5. ***Body:*** The class body surrounded by braces, { }.

Constructors are used for initializing new objects. Fields are variables that provides the state of the class and its objects, and methods are used to implement the behavior of the class and its objects.

**Object**

It is a basic unit of Object Oriented Programming and represents the real life entities.  A typical Java program creates many objects, which as you know, interact by invoking methods. An object consists of :

1. ***State*** : It is represented by attributes of an object. It also reflects the properties of an object.
2. ***Behavior*** : It is represented by methods of an object. It also reflects the response of an object with other objects.
3. ***Identity*** : It gives a unique name to an object and enables one object to interact with other objects.

**Constructor**

**Types of Constructors:**

There are three types of constructors: Default, No-arg constructor and Parameterized.

***a) Default constructor***

If you do not implement any constructor in your class, Java compiler inserts a [default constructor](https://beginnersbook.com/2014/01/default-constructor-java-example/) into your code on your behalf. This constructor is known as default constructor. You would not find it in your source code(the java file) as it would be inserted into the code during compilation and exists in .class file.

***b) no-arg constructor:***

Constructor with no arguments is known as no-arg constructor. The signature is same as default constructor, however body can have any code unlike default constructor where the body of the constructor is empty.

***c) Parameterized constructor***

Constructor with arguments(or you can say parameters) is known as [Parameterized constructor](https://beginnersbook.com/2014/01/parameterized-constructor-in-java-example/).