CONSTRUCTOR AND IT'S TYPES

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Constructor

In Java, a constructor is a block of codes similar to the method. It is called when an instance of the class(object)is created. At the time of calling constructor, memory for the object is allocated in the memory.It is a special type of method which is used to initialize the object, whenever object is created.

Every time an object is created using the new() keyword, at least one constructor is called.It calls a default constructor if there is no constructor available in the class. In such case, Java compiler provides a default constructor by default.

obj creation: Classname object=new **Classname()**;

Rules for creating Java constructor

Here are some rules defined for the constructor:

1. Constructor name must be the same as its class name
2. A Constructor must have no explicit return type
3. A Java constructor cannot be abstract, static, final, and synchronized

Types of Java constructors

There are two types of constructors in Java:

1.Default constructor:A constructor that has no parameters or arguments is known as default constructor.

Syntax:<class_name>(){}

2.Parameterized constructor:A constructor that has specific no.of parameters is known as parameterized constructor.

Syntax:<class_name>(datatype1 parameter1,datatype2 parameter2,…){}

Example Program For Default Constructor

```
Class Student
{
        String name;
        int rno;
        Student()
        {
              name=“Suresh”;
              rno=123;
         }
         public static void main(String args[])
         {
              Student  s1= new Student();
              System.out.println(s1.name);
              System.out.println(s1.rno);
         }
}
```

Example Program For Parameterized Constructor

```
Class Student
{
        String name;
        int rno;
        Student(String str,int n)
        {
              name=str;
              rno=n;
         }
         public static void main(String args[])
         {
              Student  s1= new Student(“Ramesh”,456);
              System.out.println(s1.name);
              System.out.println(s1.rno);
         }
}
```

Java Copy Constructor

Unlike other constructors copy constructor is passed with another object which copies the data available from the passed object to the newly created object.

Example Program:

```
 class Student6{
    int id;
    String name;
    Student6(int i,String n){
        id = i ;
        name = n;
   }
    Student6(Student6 s){
        id = s.id;
       name =s.name;
    }
   void display(){System.out.println(id+" "+name);}

   public static void main(String args[]){
   Student6 s1 = new Student6(111,"Karan");
   Student6 s2 = new Student6(s1);
   s1.display();
   s2.display();
  }
}
```

Difference between constructor and method in Java

Java Constructor	Java Method
A constructor is used to initialize the state of an object.	A method is used to expose the behavior of an object.
A constructor must not have a return type.	A method must have a return type.
The constructor is invoked implicitly.	The method is invoked explicitly.
The Java compiler provides a default constructor if you don't have any constructor in a class.	The method is not provided by the compiler in any case.
The constructor name must be same as the class name.	The method name may or may not be same as the class name.