**NAME: JUNAID GIRKAR**

**SAP ID: 60004190057**

**DIVISION/BRANCH: SE - A3 - COMPS**

***AIM:***

Program on constructor and constructor overloading.

***THEORY:***

*Constructor*

* In [Java,](https://www.javatpoint.com/java-tutorial) a constructor is a block of codes similar to the method. It is called when an instance of the [class](https://www.javatpoint.com/object-and-class-in-java) 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.
* 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.
* There are two types of constructors in Java: no-arg constructor, and parameterized constructor.
* Note: It is called constructor because it constructs the values at the time of object creation. It is not necessary to write a constructor for a class. It is because java compiler creates a default constructor if your class doesn't have any.
* There are three 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
* There are two types of constructors in Java:
  1. Default constructor (no-arg constructor)

o A constructor is called "Default Constructor" when it doesn't have any parameter.

o The default constructor is used to provide the default values to the object like 0, null, etc., depending on the type.

* 1. Parameterized constructor
     + A constructor which has a specific number of parameters is called a parameterized constructor.
     + The parameterized constructor is used to provide different values to distinct objects. However, you can provide the same values also.

*Constructor Overloading in Java*

* In Java, a constructor is just like a method but without return type. It can also be overloaded like Java methods.
* Constructor [overloading in Java](https://www.javatpoint.com/method-overloading-in-java) is a technique of having more than one constructor with different parameter lists. They are arranged in a way that each constructor performs a different task. They are differentiated by the compiler by the number of parameters in the list and their types.

***CONCLUSION:***

A constructor in Java is a special method that is used to initialize objects. The constructor is called when an object of a class is created. It can be used to set initial values for object attributes, and Constructor overloading is a concept of having more than one constructor with different parameters list, in such a way so that each constructor performs a different task. In this experiment we have successfully executed a program to display the concept of using a constructor and constructor overloading.

***CODE:***

public class PassByValue {

static int k = 10;

// Passing a Value [primitive Data Type]

static void passPrimitive(int j) {

System.out.println("the value of passed primitive is " + j);

j = j + 1;

}

// Passing an Object

static void passReference(EmployeeTest emp) {

EmployeeTest reference = emp;

System.out.println("the value of name property of our object is " + emp.getName());

reference.setName("Bond");

}

public static void main(String[] args) {

EmployeeTest ref = new EmployeeTest();

ref.setName("JARVIS");

passPrimitive(k);

System.out.println("Value of primitive after get passed to method is " + k);

passReference(ref);

System.out.println("Value of property of object after reference get passed to method is " + ref.getName());

}

}

class EmployeeTest {

String name;

public String getName() {

return name;

}

public void setName(String name) {

this.name = name;

}

}

***OUTPUT:***

