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Subject : Objected Oriented Program

Program : BS(CS)

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## Question # 1

Answer:-

Whenever we create objects in java, we have to define a class. A class is a blueprint or a set of instructions to build a specific type of object.

We can think of the class as a sketch (prototype) of a house. It contains all details about the floors, doors, windows etc. on the basis of these description we build the house. Since here many house can be made from some description we can create many object from class.

**Job Example:-**

```
Class class name {  
    " variable  
    " method  
}
```

For Example:-

```
class Lamp {  
    // instance variable Private  
    Boolean is on;  
  
    // method Public void  
    turn on () {  
        is on = true;  
    }  
  
    // method  
    Public void turn off () {  
        is on = false;  
    }  
}
```

Here we have created class named Lamp. The class has on variable named (is on) and two methods turn on () and turn off (). These variable and methods define within class are called member of class. As we know the example Public and Private know access modifiers.

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## Object in Class:

An object are called an instance of a class. For example, Suppose [Animal] is a class then Cat, Dog, Horse and so on can be considered as objects of Animal class.

**Class name object = new class name:**

Here we have to use the constructor class name () to create the object. Constructors have the same name as the class and are similar to method.

**For Example:**

// L1 object

```
Lamp L1 = new Lamp();
```

// L2 = object

```
Lamp L2 = new Lamp();
```

we have created ~~the~~ ~~obj~~ objects' named L1 and L2 using the constructor of Lamp class (Lamp()); object are used to access member of a class.

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For Example :-

```
Class Lamp
```

```
    void turn on () {  
        is on = true;  
    }
```

```
}
```

```
Class class object example
```

```
Public static void main ()
```

```
    (String [] args) {  
        L1 turn on ();
```

```
}
```

```
}
```

```
    void turn off () {
```

```
        // initialize variable with value
```

```
        is on = false;
```

```
        System.out.println ("Light on")
```

```
}
```

```
Class main {
```

```
    public static void main (String [] args)
```

```
        // create object L1 & L2
```

```
        Lamp L1 = new Lamp ();
```

```
        Lamp L2 = new Lamp ();
```

```
        // call method turn on () & turn off ()
```

```
        L1 . turn on ();
```

```
        L2 . turn off ();
```

```
}
```

```
}
```

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## Question # 9

Answer:-

```
import java.util.Scanner;

public class Table {

    public static void main (String []
    args) {

        Scanner in = new
        Scanner (System.in);

        System.out.println ("Input a number:");
        int num1 = in.nextInt();

        for (int i = 0; i < 10; i++) {

            System.out.println (num1 + "x"
            + (i+1) + " = " +
            (num1 * (i+1)));
        }
    }
}
```

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### Question # "3"

Answer :-

```
import java.util Scanner;
public class {
    public static void main
    (String [] args) {
        Scanner in = new Scanner (
            System.in);
        System.out.println ("input speed
            (km/h) of first car");
        int car1 = in.nextInt ();
        System.out.println ("input speed (km/h)
            of second car:");
        int car2 = in.nextInt ();
        System.out.println ("Performance
            of two cars is: " +
            (car1 + car2) / 2);
    }
}
```