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### Question # 1

What is class and role of object in a class, explain in detail with the help of suitable program?

Answers:-

#### Class :-

A class is a group of object which have common properties. It is a template or blueprint from which object are

Created - It is a logical entity - It can be physical Class contain:

- ① Fields
- ② Methods
- ③ Constructors
- ④ Blocks
- ⑤ Nested class and interface.

### Role of object in class.

Every class in Java is a subclass of Object class. Object class is indirectly derived from the Object class. If a class does not extend any other class then it is a direct child class of Object class and extend other class then it is an indirectly derived class. Therefore the Object class methods are available to all Java classes. Hence Object class acts as a root of inheritance hierarchy in any Java program.

Program for class and object in class:-

```

class Lamp {
    boolean ison;

    void turn () {
        // initialize variable with
        // value true
        ison = true;
        System.out.println ("light on?"
            + ison);
    }

    void turnoff () {
        // initialize variable with
        // value false
        ison = false;
        System.out.println ("light on?"
            + ison);
    }
}

class Main {
    public static void main
    (String [] args) {
        // Create object l1 and l2
        Lamp l1 = new Lamp ();
        Lamp l2 = new Lamp ();
        // call method turnon() and turnoff ()
        l1.turnon ();
        l2.turnoff ();
    }
}

```

**Output :-**

light on ? true  
 light off ? false

**Question # 2**

write a program about table printing which takes input from the user on the basis of oop and explain detail.

**Answer :-**

// Java program to print multiplication table  
 import java.util.Scanner;

```
public class multiplicationTable2 {
    private static Scanner sc;
    public static void main (String[]
```

```
{
    int number;
    sc = new Scanner (System.in);
```

```
System.out.print ("enter any number  

    number = sc.nextInt ();
```

```
MultiTable (number);
}
```

```
public static void multitable (int n
{
}
```

```

int i, j;
for (i = num; i < 10; i++)
{
    for (j = 1; j <= 10; j++)
    {
        System.out.println(i + " * " + j + " = " + i * j);
    }
}

```

This is a Java program to print multiplication table for any number. Enter any integer number as input of which you want multiplication table. After that we use for loop from one to ten to generate multiplication of that number.

### Question # 3

write a program about  
any 2 cars which can  
calculate the performance  
of both of them  
and explain in detail.

```

public class Car {
    public static void main (
        String [] args) {
        // TODO Auto-generated
        method stub
        System.out.println ( )
        Car cessa = new Car ( )
        Car pipea = new Car ( )
    }
}

```

```

Cessa.c = 250;
Cessa.ts = 350;
Cessa.bo = 9.6;
pipea.c = 280;
pipea.fc = 109;
pipea.bo = 12.4;

```

```

System.out.println ("Accelerating
Speed = " + cessa.c + "km");

```

```

System.out.println ("Accelerating Speed
= " + cessa.ts + "km");

```

```

System.out.println ("Fuel capacity =
" + pipea.fc + "gallons");

```

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```
system.out.println ("First method")
```

```
pipe.perf ();
```

```
system.out.println ("2nd method "  
+ "Cena perf()");
```

```
{  
}
```

```
class a1;
```

```
{
```

```
int cs;
```

```
int ts;
```

```
double fc
```

```
double bs;
```

```
void perf ();
```

```
double p;
```

```
p = cs, bs;
```

```
// system.out.println ("performance  
of the plane = " + p);
```

```
return p;
```

```
{  
}
```