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Paper	Oops

Q1. What is Class and role of object in a Class, explain in detail with the help of a suitable program ?

ANSWER NO (1)

Ans: Class:-

A class in C++ is the building block, that leads to object-oriented programming. It is a user-defined data type, which holds its own data members and member function, which can be accessed and used by creating an instance of that class.
A class can be defined as a template/blueprint that describes the behavior/state that the object of its type support.

OR

Collection of objects is called class.
It is logically entity.
A class can also be defined as a blueprint from which you can create an individual object. Class doesn't consume any space.

Role of object in a class:-

The object class sits at the top of the class hierarchy tree in the oop. Every class in the oop is a descendent (direct or indirect) of the object

class. The object class defines the basic state and behavior that all object must have, such as the ability to compare oneself to another object, to convert to a string, to wait on condition variable, to notify other objects that a condition variable has changed, and to return the object's class.

Q2. Write a program about table printing which takes input from the user on the basis of OOP and explain in detail.

ANSWER (2)

```java
public class Multiplication _ Table
{
    public static void main(String[] args)
    {
        Scanner s = new Scanner(System.in);
        System .out .print("Enter number:");
        int n=s.nextInt();
        for(int i=1; i <= 10; i++)
        {

            System .out .println(n+" * "+ i +" = "+n* i );
        }
    }
}
```

Output:

```
javac Multiplication_Table.java
java Multiplication _ Table

Enter number:7
7 * 1 = 7
7 * 2 = 14
7 * 3 = 21
7 * 4 = 28
7 * 5 = 35
7 * 6 = 42
7 * 7 = 49
7 * 8 = 56
7 * 9 = 63
7 * 10 = 70
```

Q3. Write a program about any 2 cars which can calculate the performance of both of them and explain in detail.

ANSWER(3)

```
public class vehicle {

  public static void main(string[] args) {
      car toyota=new car();
      car honda=new car();


      toyota.car= "corolla";
      toyota.tyre=4;
      toyota.doors=4;
      toyota.engine=1.8;
      toyota.fuel capacity=44.8;
      toyota.fuelconsumption=2.4;

      honda.car="civic";
      honda.tyre=4;
      honda.doors=4;
      honda.engine=1.8;
      honda.fuelcapacity=38.7;
      honda.fuelconsumption=1.9;


      system.out.println("Name = "+toyota.car);
      system.out.println("Tyre = "+toyota.tyre);
      system.out.println("door = "+toyota.door);
      system.out.println("engine = "+toyota.engine);
      system.out.println("fuelcapacity = "+toyota.fuelcapacity);
      system.out.println("fuelconsumption = "+toyota.fuelconsumption);


      system.out.println("Name = "+honda.car);
      system.out.println("tyre = "+honda.tyre);
      system.out.println("door = "+honda.doors);
      system.out.println("engine = "+honda.engine);
      system.out.println("fuelcapacity = "+honda.fuelcapacity);
      system.out.println("fuelconsumption = "+honda.fuelconsumption);
```

```java
            system.out.println("performance of toyota");
            toyota.performance();
            system.out.println("performance of honda");
            honda.performance();


            }

      }

        class car
        {

          string car;
          int tyre;
          int door;
          double engine;
          double fuelcapacity;
          double fuelconsumption;




          void performance;
          {

            double z;
            z= fuelcapacity /fuelconsumption;

            system.out.println("performance = "+z);
          }

}
```

Output:-

Name = corolla
Tyre = 4
Door = 4
Engine = 1.8
fuel capacity = 2.4
fuel consumption = 44.8
Name = civic
Tyre = 4
Door = 4
Engine = 1.8
Fuelcapicity = 1.9
Fuelconsumption = 38.7
Performance of Toyota
Performance = 103.82
Performance of honda
Performance = 73.53