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DEPARTMENT    SOFTWARE **ENGINEERING**

SECTION        B

PAPER            OBJECT ORIENTED PROGRAMMING

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# ANSWER NO 1:

## CLASS:

### DEFINITION:

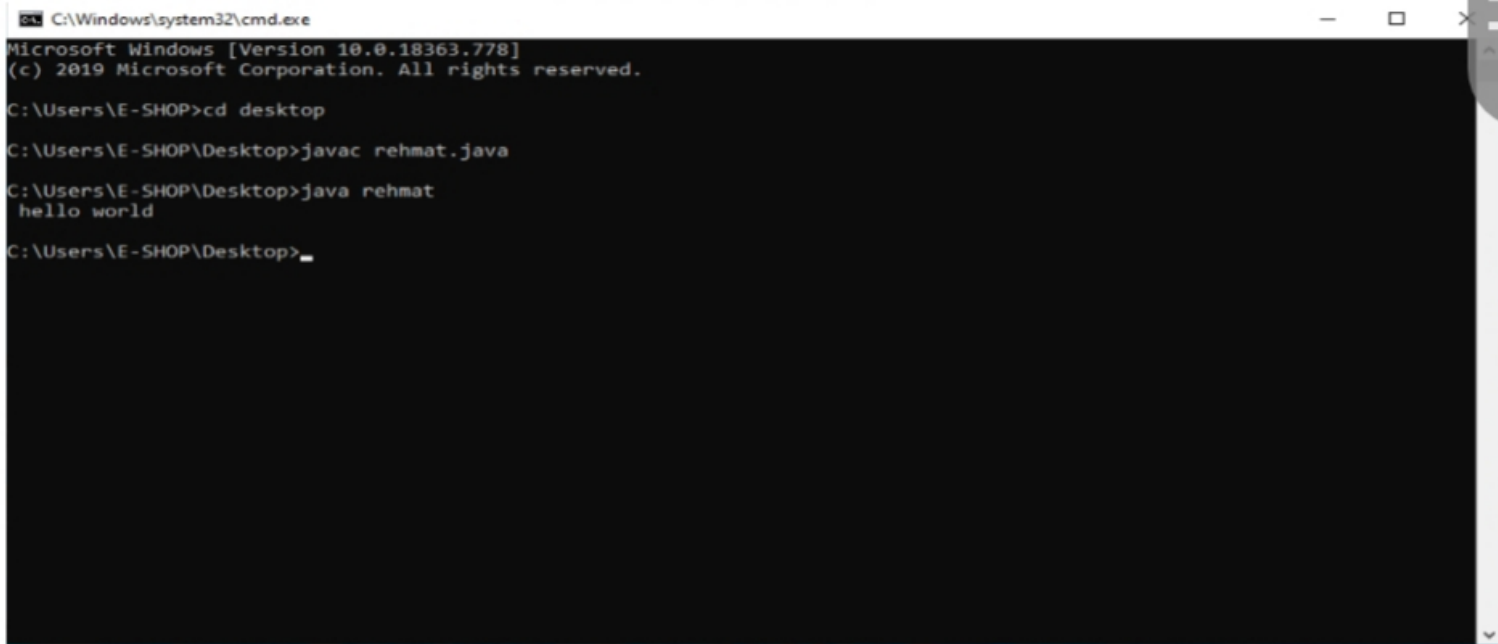
*Collection of objects* is called class. It is a logical entity.

A class can also be defined as a blueprint from which you can create an individual object. Class doesn't consume any space.

## PROGRAM:

```
class rehmat
{
    public static void main (String args[])
    {
        System.out.println(" hello world");
    }
}
```

# OUTPUT:

A screenshot of a Windows command prompt window. The title bar shows 'C:\Windows\system32\cmd.exe'. The window content displays the following text:

```
Microsoft Windows [Version 10.0.18363.778]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\E-SHOP>cd desktop
C:\Users\E-SHOP\Desktop>javac rehmat.java
C:\Users\E-SHOP\Desktop>java rehmat
hello world
C:\Users\E-SHOP\Desktop>_
```

## EXPLANATION:

In this I create one class which name is rehmat this the main function class.

Public static void main(String args[]) is main function without this we cannot run the program.

And system.out.println is for getting output in c++ we write cout for printing values or string on the screen in java we use system.out.println to print value or string on the screen.

# OBJECT:

## DEFINITION:

Any entity that has state and behavior is known as an object. For example, a chair, pen, table, keyboard, bike, etc. It can be physical or logical.

## ROLE OF OBJECT IN CLASS:

An Object can be defined as an instance of a class. An object contains an address and takes up some space in memory. Objects can communicate without knowing the details of each other's data or code. The only necessary thing is the type of message accepted and the type of response returned by the objects.

## EXAMPLE:

A dog is an object because it has states like color, name, breed, etc. as well as behaviors like wagging the tail, barking, eating, etc.

# PROGRAM:

```
class rehmat
{
    public static void main (String args[])
    {
        mobile price=new mobile();
        System.out.println("Total price of samsung" + price.samsung);
        System.out.println("fuel price of huawei=" + price.huawei);
    }
}
```

```
        System.out.println("Total price of iphone=" + price.iphone);
    }
}
class mobile
{
    int samsung=32000;
    int huawei=20000;
    int iphone=75000;
}
```

## OUTPUT:

```
C:\Windows\system32\cmd.exe
Microsoft Windows [Version 10.0.18363.778]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\E-SHOP>cd desktop
C:\Users\E-SHOP\Desktop>javac rehmat.java
C:\Users\E-SHOP\Desktop>java rehmat
Total price of samsung32000
Total price of huawei=20000
Total price of iphone=75000
C:\Users\E-SHOP\Desktop>_
```

## EXPLANATION:

In this program I create two class one is main function class and other is parent class. In main class I create one object which name is price to store the data of the variable and create the space in memory.

After this I write `system.out.println` to print the given value on the screen.

In second class which name is mobile in this I write variable and their values these value store in the object.



## ANSWER NO 2:

```
package tabler;
import java.util.*;

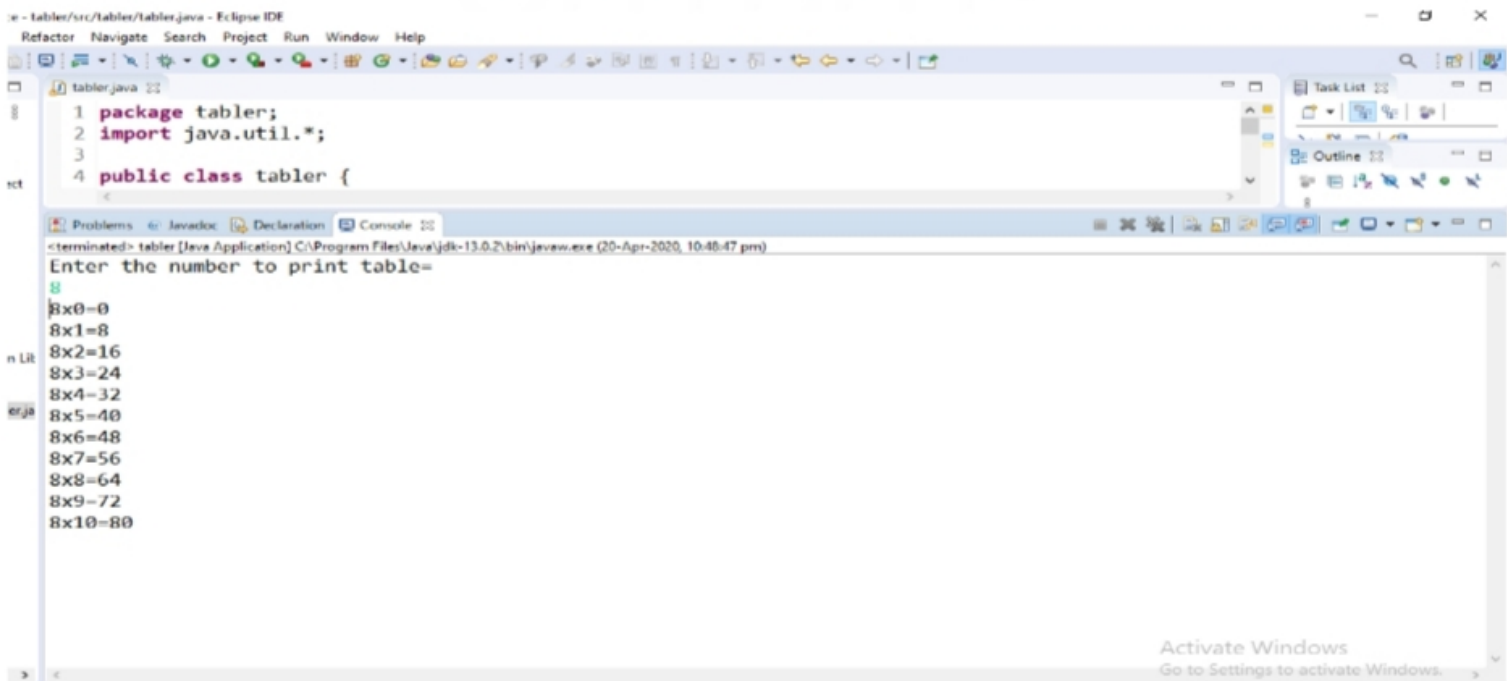
public class tabler {

    public static void main(String[] args) {
        // TODO Auto-generated method stub

        int num;
        Scanner table=new Scanner(System.in);
        System.out.println("Enter the number to print table=");
        num=table.nextInt();
        for (int i=0;i<=10;i++)
        {
            System.out.println(num+"x"+i+"="+num*i);
        }
    }
}
```

```
}
```

# OUTPUT:



```
tabler.java
1 package tabler;
2 import java.util.*;
3
4 public class tabler {

<terminated> tabler [Java Application] C:\Program Files\Java\jdk-13.0.2\bin\javaw.exe (20-Apr-2020, 10:48:47 pm)
Enter the number to print table=
8
8x0=0
8x1=8
8x2=16
8x3=24
8x4=32
8x5=40
8x6=48
8x7=56
8x8=64
8x9=72
8x10=80

Activate Windows
Go to Settings to activate Windows.
```

## EXPLANATION:

In the above I create one class which name is tabler. In this class I write the main function without main function we can not run any program. In this program I write import import java.util.\*; it is for import those data which help in getting data from the user without this we can not get the data from the user. After the main function I write local variable which name is num. after this I create one object which name is table and scanner for



getting data from the user. when the user type the value its store in the object this object will perform the method. After this I write one for loop to increment da number. And in last I write system.out.println to print the table on screen.



### ANSWER NO 3:

```
package cars;
```

```
public class cars {
```

```
    public static void main(String[] args) {  
        // TODO Auto-generated method stub
```

```
        cp mehran=new cp();  
        cp toyota=new cp();  
        mehran.totalsp=150;  
        mehran.acceleratings=70;  
        mehran.fuelcap=30;  
        mehran.fuelconsump=2.5;  
        toyota.totalsp=300;  
        toyota.acceleratings=250;  
        toyota.fuelcap=70;  
        toyota.fuelconsump=25.5;
```

```
        System.out.println("Total speed of mehran=" +  
+mehran.totalsp + "KM/h");  
        System.out.println("Accelerating speed of mehran=" +  
+mehran.acceleratings + "KM/h");
```



```
        System.out.println("Total speed of toyota="
+toyota.totalsp +"KM/h");
        System.out.println("Accelerating speed of toyota="
+toyota.acceleratings +"KM/h");
        System.out.println("Honda car performance");
        mehran.perfo();
        System.out.println("Ferrari car performance");
        toyota.perfo();
    }
}
```

```
package cars;
```

```
public class cp {
```

```
    int totalsp;
```

```
    int acceleratings;
```

```
    double fuelcap;
```

```
    double fuelconsump;
```

```
    void perfo()
```

```
{
```

```
        double p;
```

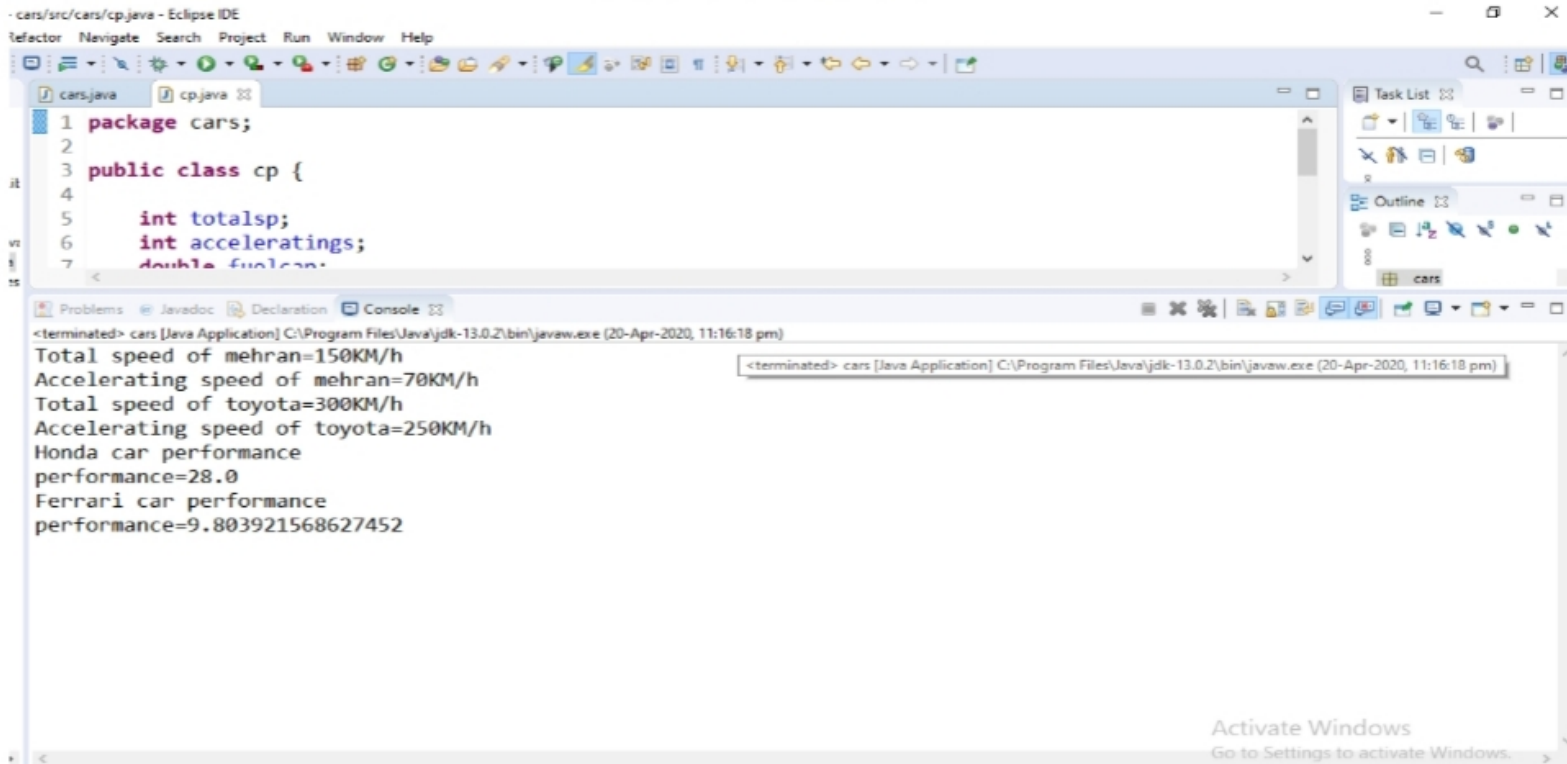
```
        p=acceleratings/fuelconsump;
```

```
        System.out.println("performance=" + p);
```

```
}
```

```
}
```

# OUTPUT:



The screenshot shows the Eclipse IDE interface. The editor window displays the following Java code:

```
1 package cars;
2
3 public class cp {
4
5     int totalsp;
6     int acceleratings;
7     double fuelcap;
```

The Console window shows the following output:

```
<terminated> cars [Java Application] C:\Program Files\Java\jdk-13.0.2\bin\javaw.exe (20-Apr-2020, 11:16:18 pm)
Total speed of mehran=150KM/h
Accelerating speed of mehran=70KM/h
Total speed of toyota=300KM/h
Accelerating speed of toyota=250KM/h
Honda car performance
performance=28.0
Ferrari car performance
performance=9.803921568627452
```

# EXPLANATION:

In this program I create two class one is main function class which name is cars and other is parent class which name is cp means car performance. I main function class I create two objects one is Mehran and other is Toyota which store all the data of the parent class. In this class I assign the values to the variable which store in the object and print on the screen.

In second class I declare variable and create one method means one function in c++ we call function in java we call method in this method simple perform the operation which give the performance of the car.

In the main class we call this method to perform.

