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SUBJECT OOPS

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

Ans: **Class:** Class is an entity which determines the behavior of the object and what will that object contain. It's a blue print for building specific type of object.

Syntax: class (class name) {
 Field;
 Method;
}

Object: object determines the behavior of the class when we send a message to an object we are asking the object to execute its method. In simple words object is the instance of the class.

```
public class Car {  
    public Car(String name) {  
        System.out.println("Passed Name is :"+ name );  
    }  
  
    public static void main(String []args) {  
        // Following statement would create an object myCar  
        Car myCar = new Car( "Bugatti" );  
    }  
}
```

The above program will output car name:Bugatti

The role of object in this class is to pass the car name to the class so in general object pass the value to the class as we can see in the above code.

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

Ans:

Program

```
package com.company;  
import java.util.Scanner;  
public class Main{  
    // Create a table() method and add a parameter  
    public void table(int a ,int b) {  
        int z=0;  
        for (int i = 1; i<=b; i++) {  
            z = a * i;  
            System.out.println(a+" x "+i+" = "+z);  
        }  
    }  
}
```

```
}
```

```
}
```

```
// Inside main, call the methods on the my object
```

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

```
    int a;
```

```
    int b;
```

```
    Scanner scan = new Scanner(System.in);
```

```
    System.out.println("Enter Which table you want ");
```

```
    a = scan.nextInt();
```

```
    System.out.println("Enter how much multiple you want ");
```

```
    b = scan.nextInt();
```

```
    System.out.println();// Create white specs
```

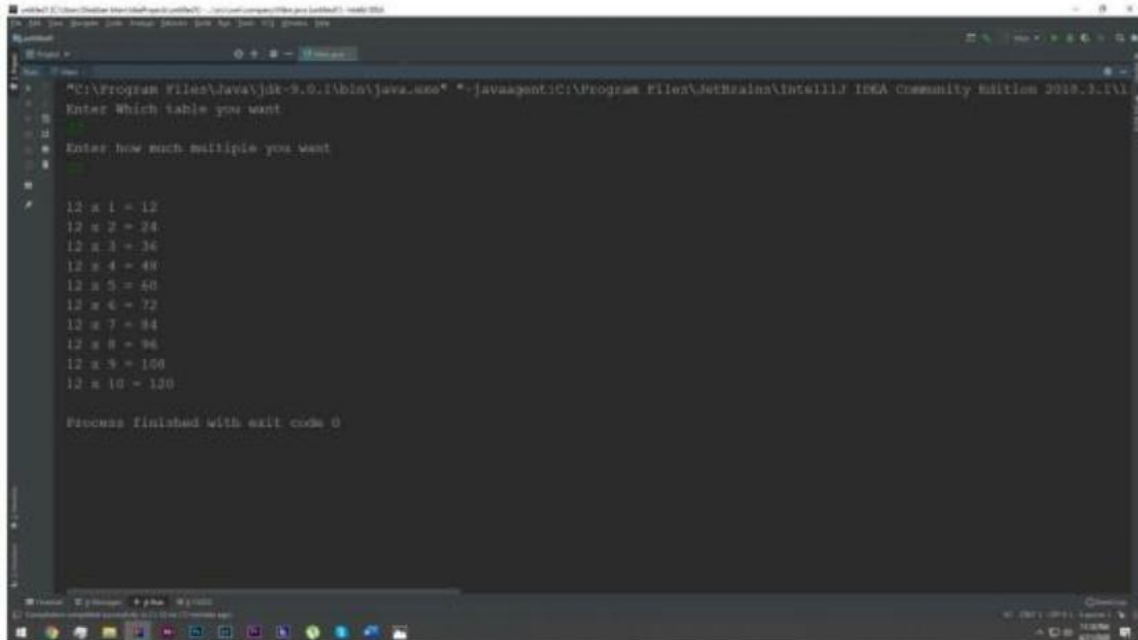
```
    Main my = new Main(); // Create a "my" object
```

```
    my.table(a,b); // Call the table() method
```

```
}
```

```
}
```

Out Put



```

"C:\Program Files\Java\jdk-9.0.4\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2018.3.1\lib\idea_rt.jar=5037:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2018.3.1\bin" -Dfile.encoding=UTF-8
Enter Which table you want
Enter how much multiple you want
12 x 1 = 12
12 x 2 = 24
12 x 3 = 36
12 x 4 = 48
12 x 5 = 60
12 x 6 = 72
12 x 7 = 84
12 x 8 = 96
12 x 9 = 108
12 x 10 = 120
Process finished with exit code 0

```

Details:

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

Ans:

Program

```

package com.company;

public class Main {

    public static void main(String[] args) {

        Cars rx5= new Cars();

        Cars rx8= new Cars();
    }
}

```

```

int caronesped=350;
int caronehp=800;
int cartwosped=240;
int cartwohp=270;

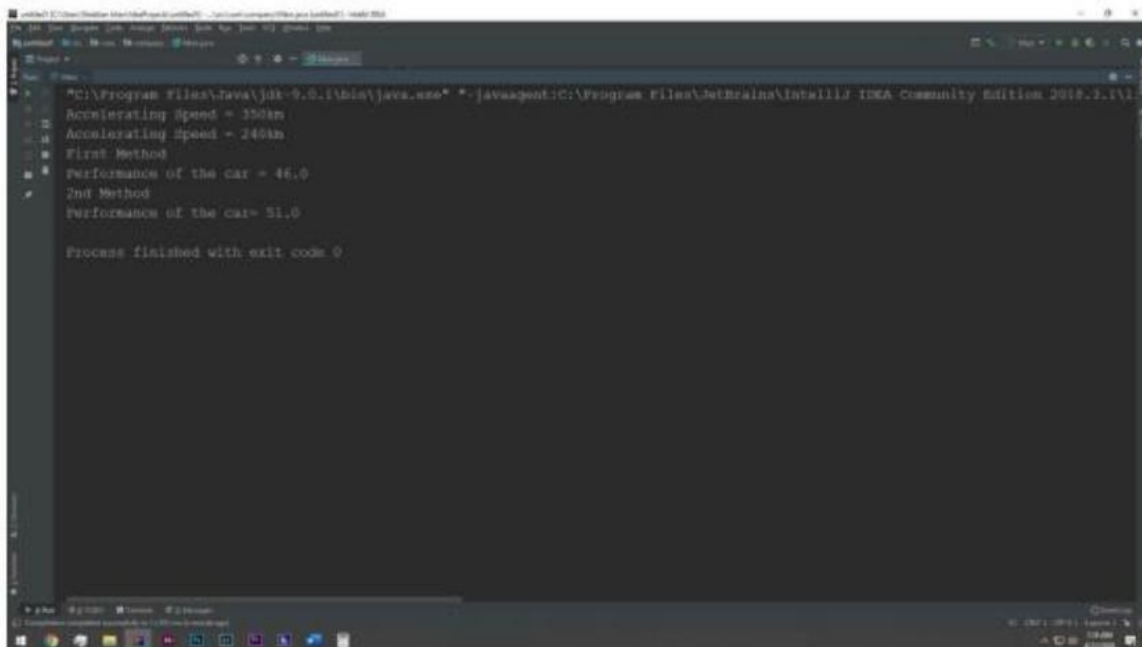
int caronefec=25;
int cartwofec=10;
System.out.println("Accelerating Speed = " +caronesped + "km");
System.out.println("Accelerating Speed = " +cartwosped + "km");
System.out.println("First Method ");
rx8.perf(caronesped,caronehp,caronefec);
System.out.println("2nd Method ");
rx5.perfo(cartwosped,cartwohp,cartwofec);
}
}
class Cars
{

void perf(int caronesped,int caronehp, int caronefec) {
    double p;
    p = (caronesped +caronehp) / caronefec;
    System.out.println("Performance of the car = " + p );
}
}

```

```
void perfo( int cartwosped,int cartwohp,int cartwofec) {  
    double p;  
    p = (cartwosped + cartwohp )/ cartwofec;  
    System.out.println("Performance of the car= " +p);  
}  
}
```

Out Put



```
"C:\Program Files\Java\jdk-9.0.4\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2019.3.1\lib\idea_rt.jar=5037:C:\Program Files\Java\jdk-9.0.4\bin" com.intellij.idea.Main  
Accelerating Speed = 350km  
Accelerating Speed = 240km  
First Method  
Performance of the car = 46.0  
2nd Method  
Performance of the car= 51.0  
Process finished with exit code 0
```