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ques 1

(i)Design a class student with (Student_id and name as data members). Derive a class a from student with data member internal mark. Derive a class b from a with external mark as a data member and display the total mark for a student using appropriate method.

student.java:

```
public class student {
	int id;
	String name;



}
```

b.java:

```
public class student {
	int id;
	String name;



}
```

c.java:

```
public class c extends b {
	int externalmarks;

}
```

main.java:

```
import java.util.Scanner;


public class main {
	public static void main(String args[])
	{
		//enter the id of the student
		Scanner sc = new Scanner(System.in);
```

```
            int y =sc.nextInt();
            //enter the name of the student
            Scanner p = new Scanner(System.in);
            String k=p.next();
            c x= new c();
            x.id=y;
            x.name=k;
            x.coursename="math";
            x.internalmarks=10;
            x.externalmarks=25;
            System.out.println(x.internalmarks+x.externalmarks);
            sc.close();
            p.close();




      }

}
```

(ii) Implement the same(i) using only interface and implementable class with driver program

ques 2:
RRr.java:

```
public class r implements s {
      String name;
      int id;
      int cat1;
      int cat2;
      public void display()
      {
            System.out.println(cat1+cat2);
      }

}
interface s
{
      public void display();
}
```

d.java:

```
import java.util.*;
public class d {
      public static void main(String args[])
      {
            r p =new r();
            p.id=2345;
            p.cat1=35;
            p.cat2=39;
            p.display();

      }


}
```

ques 3:

(iii) Implement the same(i) using multiple Inheritance

studen.java:

```
import java.util.*;
public class d {
      public static void main(String args[])
      {
            r p =new r();
            p.id=2345;
            p.cat1=35;
            p.cat2=39;
            p.display();

      }


}
```

find.java:

```
public class find extends student implements s{
      public void display()
      {
            System.out.println(external+internal);
      }


}
```

calculate.java:

```
import java.util.*;
public class calculate {
      public static void main(String args[])
      {
      find x=new find();
      x.id = 2345;
      x.name="harsh";
      x.internal=25;
      x.external=35;
      x.display();
      }

}
```

ques 4:

(iv) Create two interfaces s, s1 with read() and disp() method and implement those methods using string based i/o operations.

f.java

```
public class f implements s1,s2{
      String s;
      public void read(s)
      {
            String x=s;
      }
      public void display(s)
      {
            system.out.println(s);
      }


}
interface s1
{
      public void read();
}

interface s2
{
      public void disp();
}
```

y.java

```
import java.util.*;
public class y {
      public static void main(String args[])
      {
```

```
            f c=new f();
            c.display("hello Worls");
            c.read("hello World");
        }

}
```