WT LAB -9

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- Branch :CSE

```java
// 1. A plastic manufacturer sells plastic in different shapes like 2D sheet and 3D box. The cost of sheet
is Rs 40/ per square ft. and the cost of box is Rs 60/ per cubic ft. Implement it in Java to calculate the
cost of plastic as per the dimensions given by the user where 3D inherits from 2D.

class sheet
{
    int costp=40;
    void calcp(int x)
    {
    System.out.println("cost of 2d plastic sheet forr" + x + "is Rs" +(x*40));
    }


}

class box extends sheet
{

int costb=60;
void calcb(int x)
{
System.out.println("cost of plasticbox forr" + x + "cubic ft is Rs"  + (x*60) );
}

}
```

```java
 class q1
{


    public static void main(String[] args)
    {
        //System.outprintln();
        box b=new box();
        b.calcb(20);
        b.calcp(30);


    }

}
```

OUTPUT −1

PS D:\my codes\web tech lab\lab9_inherit> cd "d:\my codes\web tech la
b\lab9_inherit\" ; if ($?) { javac q1.java } ; if ($?) { java q1 }
cost of plasticbox forr20cubic ft is Rs1200
cost of 2d plastic sheet forr30is Rs1200
PS D:\my codes\web tech lab\lab9_inherit>

```java
// 2. Illustrate the execution of constructors in multi-level inheritance with three Java
// classes - plate(length, width), box(length, width, height), wood box (length, width,
// height, thick)


class  plate
{ int length,width;

    plate()
    {
    System.out.println("constructor od class plate");
    }

}

class box extends plate
{
    int length,width,height;
 box()
 {
```

```java
        System.out.println("constructor od class box");
 }


}

class woodbox extends box
{
    int length,width,height,thick;
    woodbox()
    {
    System.out.println("constructor od class woodbox");
    }


}
public class q2 {
    public static void main(String[] args) {


        woodbox wd = new woodbox();

        // we can clearly see that the constructor of parent class is called first then the base
class constructor is caleed
    }


}
```

```
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PS D:\my codes\web tech lab\lab9_inherit> cd "d:\my codes\web tech la
b\lab9_inherit\" ; if ($?) { javac q2.java } ; if ($?) { java q2 }
constructor od class plate
constructor od class box
constructor od class woodbox
PS D:\my codes\web tech lab\lab9_inherit>
```

```java
// 3. Program on Dynamic Method Dispatch.
import java.util.Scanner;

class trees {

    int no;

    void tree() {
        System.out.println("this is tree class");
    }
}

class mango extends trees {

    int no;

    void tree() {
        System.out.println("this is mango class");
    }
}

class apple extends mango {

    int no;

    void tree() {
        System.out.println("this is appple class");
    }
}

public class q3

{
    public static void main(String[] args) {
int x;
        Scanner sc=new Scanner(System.in);

        System.out.println("from the object of apple class and mangoclass acceesing method of
tree class ehich is inherited hierachial");
        mango m = new apple();
        m.tree();

        trees a= new mango();
        a.tree();


    }
}
```

==OUTPUT-3==

```java
// 4.   Write a program in java to define a class Shape which has data member area and a member
function showArea(). Derive two classes Circle and Rectangle from Shape class. Add appropriate
data members and member functions to calculate and display the area of Circle and Rectangle.

class shape {

    void area() {
        System.out.println("the is use to calculate area method");
    }

    void showarea() {
        System.out.println("this the use to siplay area");

    }
}

class circle extends shape {

    int r = 20;
    float area;

    void area(int x) {

        area = (float) 3.14 * x * x;
    }

    void showarea() {

        System.out.println("area of circle is " + area);
    }
}

class rectangle extends shape {

    int l = 5, b = 3;

    float area;

    void area(int x, int y) {
```

```java
        area = (float) l * b;
    }

    void showarea() {

        System.out.println("area of rectangle is " + area);
    }
}

 public class q4

{

    public static void main(String[] args) {

        circle m = new circle();
        m.area(20);
        m.showarea();

        rectangle a = new rectangle();
        a.area(20, 40);
        a.showarea();

    }
}
```
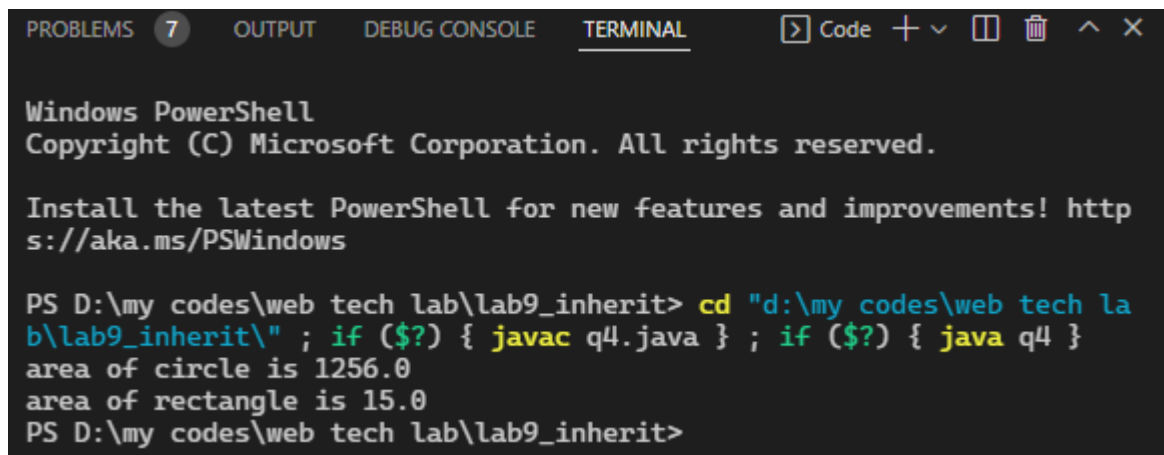
```
PROBLEMS  7    OUTPUT    DEBUG CONSOLE    TERMINAL         > Code + ∨ ☐ 🗑 ∧ ✕

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PS D:\my codes\web tech lab\lab9_inherit> cd "d:\my codes\web tech la
b\lab9_inherit\" ; if ($?) { javac q4.java } ; if ($?) { java q4 }
area of circle is 1256.0
area of rectangle is 15.0
PS D:\my codes\web tech lab\lab9_inherit>
```

```java
// 5. Write a program to create an Account class containing acc_no, balance as data
// members and disp() to display the details. Inherit it in Person class with all mentioned
// data members and functions. Person class also has name and aadhar_no as extra data
// members of its own. Override disp() function. Create 5 persons' details.
class Account {
    int accno=200, bal=2000;

    void display() {
```

```java
            System.out.println("account no is --->" + accno);
            System.out.println("balance  is --->" + bal);
        }

}

class person extends Account {
    String  name ;
    int adharno=32131211;
    void input(String na,int add)
    {
        name=na;
        adharno=add;
    }

    void display() {

        System.out.println("name no is --->" + name);
        System.out.println("adhar no. is  is --->" + adharno);
        super.display();
        System.out.println();
    }


}

public class q5 {
    public static void main(String[] args)
     {
        for (int i = 0; i < 5; i++)
        {
          person a= new person();
          a.input("hitu",(i+2*2234));
          a.display();
        }


     }

}
```

```
b\lab9_inherit\" ; if ($?) { javac q4.java } ; if ($?) { java q4 }
area of circle is 1256.0
area of rectangle is 15.0
PS D:\my codes\web tech lab\lab9_inherit> cd "d:\my codes\web tech la
b\lab9_inherit\" ; if ($?) { javac q5.java } ; if ($?) { java q5 }
name no is ---->hitu
adhar no. is  is ---->4468
account no is ---->200
balance  is ---->2000

name no is ---->hitu
adhar no. is  is ---->4469
account no is ---->200
balance  is ---->2000

name no is ---->hitu
adhar no. is  is ---->4470
account no is ---->200
balance  is ---->2000

name no is ---->hitu
adhar no. is  is ---->4471
account no is ---->200
balance  is ---->2000

name no is ---->hitu
adhar no. is  is ---->4472
account no is ---->200
balance  is ---->2000

PS D:\my codes\web tech lab\lab9 inherit>
```

```java
// 6.   Write a program in java using inheritance to show how to call the base class
parameterized constructors from the derived class using super

class base {

    base(int x) {

        System.out.println("this is base class constructor and value is" +x);
    }
}

class derive extends base
 {


    derive()
    {
        super (20);
        System.out.println("this is derive class comstrucutor");
    }

}

public class q6 {
    public static void main(String[] args) {
        derive d = new derive();
```

```
        }
}
```

OUTPUT-6

```
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PS D:\my codes\web tech lab\lab9_inherit> cd "d:\my codes\web tech la
b\lab9_inherit\" ; if ($?) { javac q6.java } ; if ($?) { java q6 }
this is base class constructor and value is20
this is derive class comstrucutor
PS D:\my codes\web tech lab\lab9_inherit>
```

2005025_Hitu raj