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Batch CSE-06

Subject WebTech

~~Roll~~

## Assignment 9

Q

Ques 2

```
class Bank {
```

```
    Double ROI;
```

```
    void findROI() {
```

```
        System.out.println("ROI:" + ROI);
```

```
    }
```

```
}
```

```
class HDFC extends Bank {
```

```
    HDFC() {
```

```
        ROI = 8.1;
```

```
    }
```

```
    void findROI() {
```

```
        System.out.println("ROI of HDFC Bank: " + ROI);
```

```
    }
```

```
class ICICI extends Bank {
```

```
    ICICITC() {
```

```
        RO1 = 6.5;
```

```
    }
```

```
    void findRO1C() {
```

```
        System.out.println("RO1 of ICICI Bank: " + RO1);
```

```
    }
```

```
}
```

```
class BOI extends Bank {
```

```
    BOIC() {
```

```
        RO1 = 4.5;
```

```
    }
```

```
    void findRO1C() {
```

```
        System.out.println("RO1 of BOI Bank: " + RO1);
```

```
    }
```

```
}
```

```
public class ques3 {
```

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

```
        HDFC hdfc = new HDFC();
```

~~ICICI~~

ICICI icici = new ICICI();

BOI boi = new BOI();

Bank ref;

ref = hdfc;

~~ref~~ ref.findROI();

ref = icici;

ref.findROI();

ref = boi;

ref.findROI();

}

}

```
Run: ques3 x
"C:\Program Files\Amazon Corretto\jdk17.
ROI of HDFC Bank: 8.1
ROI of ICICI Bank: 6.5
ROI of BOI Bank: 4.5%
Process finished with exit code 0
Git Run TODO Problems Profiler Build Terminal
```

Ques 1

```
public class Abstract Demo
```

```
{
```

```
    public static void Ques 1main(String[] args)
```

```
{
```

```
    Shape shape;
```

```
    Circle c1 = new Circle();
```

```
    shape = c1;
```

```
    shape.setValues(5);
```

```
    System.out.println("Area of Circle: " +  
                        shape.getArea());
```

```
    Square sq = new Square();
```

```
    shape = sq;
```

```
    shape.setValues(5);
```

```
    System.out.println("Area of Square: " +  
                        shape.getArea());
```

```
    Triangle tri = new Triangle();
```

```
    shape = tri;
```

```
    shape.setValues(5);
```

```
    System.out.println("Area of Triangle: " + shape.  
                        getArea());
```

```
} }
```

```
public abstract class Shape  
{
```

```
    private double radius;
```

```
    public void setValues(double radius)
```

```
    {
```

```
        this.radius = radius;
```

```
    }
```

```
    public double getRadius()
```

```
    {
```

```
        return radius;
```

```
    }
```

```
    public abstract double getArea();
```

```
}
```

```
public class Square extends Shape
```

```
{
```

```
    public double getArea()
```

```
    {
```

```
        return getRadius() * getRadius();
```

```
    }
```

```
}
```

```
public class Triangle extends Shape {
```

```
    public double getArea()
```

```
{
```

```
    return Math.sqrt(3) * 0.25 * getRad getRadius() *  
        getRadius();
```

```
}
```

```
}
```

```
public class Circle extends Shape
```

```
{
```

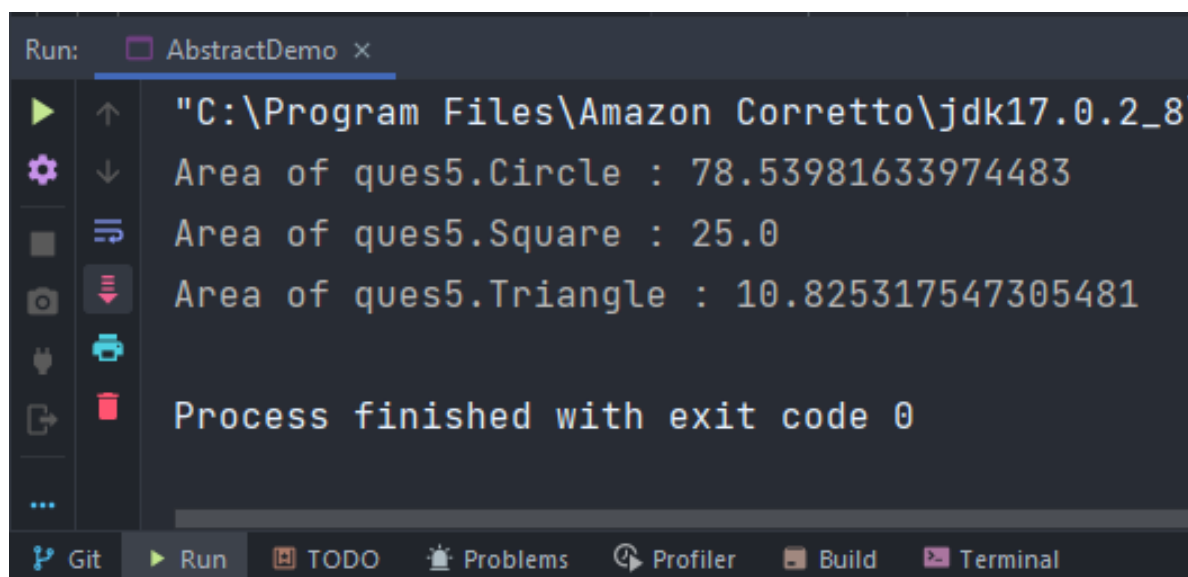
```
    public double getArea()
```

```
{
```

```
    return Math.PI * (getRadius() * getRadius());
```

```
}
```

```
}
```



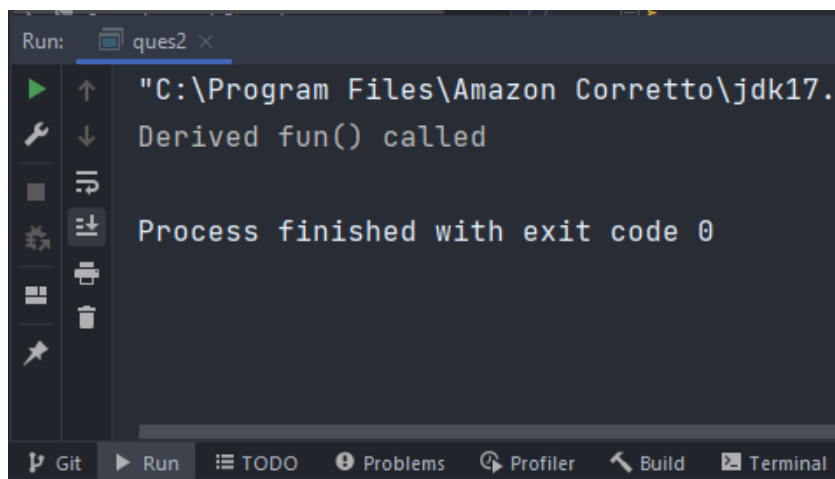
```
Run: AbstractDemo x  
"C:\Program Files\Amazon Corretto\jdk17.0.2_8"  
Area of ques5.Circle : 78.53981633974483  
Area of ques5.Square : 25.0  
Area of ques5.Triangle : 10.825317547305481  
Process finished with exit code 0  
Git Run TODO Problems Profiler Build Terminal
```

Ques 2

```
abstract class Base {  
    abstract void fun();  
}
```

```
class Derived extends Base {  
    void fun()  
    {  
        System.out.println("Derived fun() called");  
    }  
}
```

```
class Main {  
    public static void main(String [] args)  
    {  
        Base b = new Derived();  
        b.fun();  
    }  
}
```



```
Run: ques2 x  
"C:\Program Files\Amazon Corretto\jdk17.  
Derived fun() called  
  
Process finished with exit code 0  
  
Git Run TODO Problems Profiler Build Terminal
```



Ques 4

class Data

{

int height, breadth;

void getData(int h, int b)

{

height = h;

breadth = b;

}

void putData()

{

System.out.println("Height: " + height +  
"breadth: " + breadth);

}

}

class Rectangle extends Data

{

void areaRectangle()

{

System.out.println("Area of Rectangle" + (height \*  
breadth));

}

}



class Triangle extends Data

{

void areaofTriangle()

{

System.out.println("Area of Triangle: " +  
(0.5 \* height \* breadth));

}

void perimeterofTriangle()

{

int s = (int) Math.sqrt(Math.pow(height, 2) +  
Math.pow(breadth, 2));

System.out.println("Perimeter of Triangle: " +  
(height + breadth + s));

}

public class ques4

{

public static void main (String[] args)

{

Rectangle obj1 = new Rectangle();

Triangle obj2 = new Triangle();

obj1.getData(10, 20);

Obj2.getData(3, 4);

System.out.println("Rectangle");

obj1.putData();

obj1.areaofRectangle();

~~obj1.area~~

obj1.perimeterofRectangle();

System.out.println("Triangle");

Obj2.putData();

obj2.areaofTriangle();

obj2.perimeterofTriangle();

}

}

```
Run: ques4 x
"C:\Program Files\Amazon Corretto\jdk17.0.2_8
Rectangle
The height is : 10
The breadth is : 20
The area of rectangle is : 200
The perimeter of rectangle is : 60
Triangle
The height is : 3
The breadth is : 4
The area of triangle is : 6.0
The perimeter of triangle is : 12
```

Git Run TODO Problems Profiler Build Terminal

Ques 5

~~class Stack()~~

class Stack {

static final int MAX = 10;

int top;

int[] a = new int[MAX];

boolean isEmpty()

{

return (top < 0);

}

Stack()

{

top = -1;

}

boolean push(int x)

{

if (top >= (MAX - 1)) {

System.out.println("overflow");

return false;

}

else {

    a[++top] = x;

    System.out.println(x + " pushed into Stack");

    return true;

}

}

}

int pop()

{

    if (top < 0) {

        System.out.println("Underflow");

        return 0;

    }

    else {

        int x = a[top--];

        return x;

    }

}

~~int display~~ int top()

{

    if (top < 0) {

```

        System.out.println("Underflow");
        return 0;
    }

    else {
        int n = a[top];
        return n;
    }
}

void display() {
    for(int i = top; i >= 1; i--)
    {
        System.out.println(" " + a[i]);
    }
}
}

```

```

class ques 5 {
    public static void main(String[] args)
    {
        Stack s = new Stack();
        s.push(10);
        s.push(15);
    }
}

```

s.push(18);

s.push(20);

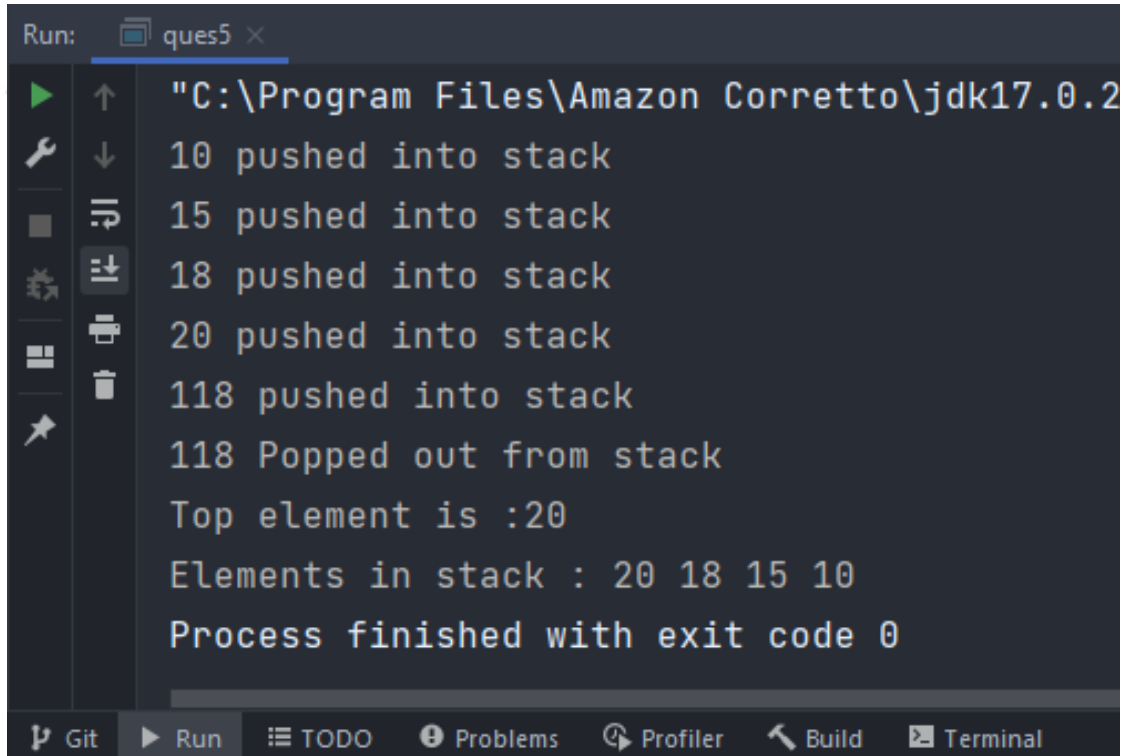
s.push(118);

System.out.println(s.pop() + "Popped out from  
stack");

System.out.println("Top Element is : " +  
s.Top());

System.out.println("Elements in stack : ");

s.display();



The screenshot shows a terminal window titled "Run: ques5 x" with a dark background. The output of the program is as follows:

```
"C:\Program Files\Amazon Corretto\jdk17.0.2
10 pushed into stack
15 pushed into stack
18 pushed into stack
20 pushed into stack
118 pushed into stack
118 Popped out from stack
Top element is :20
Elements in stack : 20 18 15 10
Process finished with exit code 0
```

At the bottom of the window, there is a toolbar with icons for Git, Run, TODO, Problems, Profiler, Build, and Terminal.