

#### Week-4

Develop a Java program to create an abstract class called Shape that contains two integers and an empty method named printArea(). Provide three classes named Rectangle, Triangle and Circle such that each one of the classes extends the class Shape. Each one of the classes contains only the method printArea() that prints the area of the given shape.

```
import java.util.Scanner;
import java.lang.Math;
abstract class Shape
{
    int length, breadth;
    Scanner s = new Scanner(System.in);
    abstract void printArea();
}
class Rectangle extends Shape
{
    void printArea() {
        System.out.println("Enter length and breadth");
        length = s.nextInt(); breadth = s.nextInt();
        System.out.println("The area of rectangle is: "
            + length * breadth);
    }
}
```



class Triangle ~~ends~~ extends Shape

```
{  
    void printArea() {  
        System.out.println("Enter base and height:");  
        length = s.nextInt();  
        breadth = s.nextInt();  
        int  
        System.out.println("The area of triangle is: " + 0.5 * length * breadth);  
    }  
}
```

class Circle extends Shape

```
{  
    void printArea() {  
        System.out.println("Enter radius:");  
        length = s.nextInt();  
        System.out.println("The area of circle is: " + 3.14 * length * length);  
    }  
}
```

class S\_main

```
{  
    public static void main(String args[])  
    {  
        int ch;  
        Scanner ssc = new Scanner(System.in);  
        System.out.println("\n MENU \n  
        Select Shape \n 1. Rectangle \n 2. Triangle \n 3. Circle \n");  
    }  
}
```



ch = ~~scan~~ SS.nextInt();

switch (ch)

{

case 1: Rectangle r = new Rectangle();

r.printArea();

break;

case 2: Triangle t = new Triangle();

t.printArea();

break;

case 3: Circle c = new Circle();

c.printArea();

break;

default: System.out.println("Invalid input");

}

}

}

Output



```
Command Prompt - java 18055
void m
Enter your account type:
canne 1. Savings account
       2. Current account
tln("1
Cheque Facility not available
Enter customer name
rrr
Enter rrr's account number
5555
sava Enter balance amount
60000
Customer Name:rrr
Your account number:5555
Your Account Balance:60000.0
Press 1 to deposit
1
Enter amount to be deposited
500
curac Enter rate of interest
4
Enter number of times interest applied per time period
3
Enter number of time periods
4
Interest amount=68054.27200000001
stem. Balance amount without interest is60500.0
Available balance after updating is68054.27200000001
Press 1 to withdraw ammount
```