

\* Develop a Java program to create an abstract class named Shape that contains two integers and an empty method named printArea(). Each one of the classes extends the class Shape. Each one of the classes contain only the method printArea() that prints the area of the given shape.

Soln:-

```
import java.util.*;
```

```
import java.lang.*;
```

```
abstract class Shape
```

```
{
```

```
    int a, b;
```

```
    abstract public void printArea();
```

```
}
```

```
class Rectangle extends Shape
```

```
{
```

```
    public int area_rect;
```

```
    // override
```

```
    public void printArea()
```

```
{
```

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

```
        System.out.println("Enter the value of a :- ");
```

```
        a = ss.nextInt(); System.out.println("Enter the value of b:"); b = ss.nextInt();
```

```
        area_rect = a * b;
```

```
        System.out.println("The area of rectangle is: " + area_rect);
```

```
}
```

```
}
```

```
class triangle extends shape
```

```
{
```

```
    int area - tri;
```

```
    @Override
```

```
    public void print_area()
```

```
{
```

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

```
    System.out.println ("Enter the value of a: -");
```

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

```
    System.out.println ("Enter the value of b: -");
```

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

```
    area - tri = Int (0.5 * a * b);
```

```
    System.out.println ("The area of triangle is: " + area - tri);
```

```
}
```

```
}
```

```
class Circle extends Shape
```

```
{
```

```
    int area - Circle;
```

```
    @Override
```

```
    public void print_area();
```

```
{
```

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

```
    System.out.println ("Enter the value of a: ");
```

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

```
    System.out.println ("Enter the value of b: ");
```

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

```
    area - Circle = (int) (3.14 * a * a)
```

```
    System.out.println ("The area of circle is" + area - Circle);
```

```
}
```

Teacher's Signature : \_\_\_\_\_



```
public class Shape1
```

```
{
```

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

```
{
```

```
        rectangle r = new rectangle ();
```

```
        r.print_area();
```

```
        triangle t = new triangle ();
```

```
        t.print_area();
```

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

```
        c1.print_area();
```

```
    }
```

```
}
```