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OOT LAB  
DI - BATCH

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### LAB program - 4

```
- import java.util.*;  
import java.lang.Math.*;
```

```
abstract class shape {
```

```
    public int a;
```

```
    public int b;
```

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

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

```
}
```

```
class rectangle extends shape {
```

```
    public void printArea() {
```

```
        System.out.print("Enter length and breadth of  
rectangle:");
```

```
        float a = s.nextFloat();
```

```
        float b = s.nextFloat();
```

```
        float area = a*b;
```

```
        System.out.println("Area = "+area+" sq. unit");
```

```
}
```

```
}
```

```
class triangle extends shape {
```

```
    public void printArea() {
```

```
        System.out.print("Enter three sides of triangle:");
```

```
        float a = s.nextFloat();
```

```
        float b = s.nextFloat();
```

```

float c = s.nextFloat();
float d = (a+b+c)/2;
double area = Math.sqrt(d*(d-a)*(d-b)*(d-c));
System.out.println("Area = " + area + "sq. unit");
}
}

```

```

class Circle extends Shape {
    public void printArea() {
        System.out.print("Enter radius of circle:");
        float a = s.nextFloat();
        float area = 22/7 * a * a;
        System.out.println("Area = " + area + "sq. unit");
    }
}

```

```

class ShapeDemo {
    public static void main(String args[]) {
        Shape r = new Rectangle();
        Shape t = new Triangle();
        Shape c = new Circle();
        for(int i=0; i<100; i++) {
            System.out.println("\n1) Triangle\n2) Rectangle\n3) Circle\n");
            System.out.print("Enter your choice:");
            Scanner s = new Scanner(System.in);

```

```
int ch = s.nextInt();
```

```
Switch(ch){
```

```
    case 1: t.println("A");
```

```
        break;
```

```
    case 2: r.println("A");
```

```
        break;
```

```
    case 3: c.println("A");
```

```
        break;
```

```
    default:
```

```
        System.out.println("Invalid choice");
```

```
    }
```

```
}
```

```
}
```

```
}
```