

## Lab - 4

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```
import java.util.Scanner;
```

```
abstract class Shape
```

```
{
```

```
    int a;
```

```
    int b;
```

```
    Shape (int a, int b)
```

```
{ this.a = a;
```

```
  this.b = b;
```

```
}
```

```
    Shape (int a)
```

```
{ this.a = a;
```

```
}
```

```
    Shape ()
```

```
{ this.a = 0;
```

```
  this.b = 0;
```

```
}
```

```
    void printArea()
```

```
{
```

```
}
```

```
}
```

```
class Triangle extends Shape
```

```
{ Triangle (int a, int b)
```

```
{ super(a, b); }
```

```
    void printArea()
```

```
{ System.out.println("The area of the triangle is = " + (a*b)/2);
```

```
}
```

```
}
```





Class rectangle extends Shape.

```
{ rectangle (int a, int b)
```

```
{ super(a, b); }
```

```
void printArea()
```

```
{ System.out.println("The area of rectangle is = " + (a * b));
```

```
}
```

```
}
```

Class circle extends Shape

```
{ circle (int a)
```

```
{ super(a); }
```

```
void printArea()
```

```
{ System.out.println("The area of the circle is = " + (3.14 * a * a));
```

```
}
```

```
}
```

Class shapes {

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

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

```
int ch, a, b;
```

```
while (true) {
```

```
System.out.println("Enter 1 for TRIANGLE");
```

```
System.out.println("Enter 2 for RECTANGLE");
```

```
System.out.println("Enter 3 for CIRCLE");
```

```
System.out.println("Enter 4 to EXIT");
```

```
ch = scan.nextInt();
```

```
switch (ch) {
```

```
case 1: System.out.println("Enter base and height of triangle");
```

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

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

```
triangle t = new triangle(a, b);
```

```
t.printArea();
```



break;

```
case 2: System.out.println("Enter the length and breadth");  
a = scan.nextInt();  
b = scan.nextInt();  
rectangle r = new rectangle(a, b);  
r.printArea();  
break;
```

```
case 3: System.out.println("Enter the radius of circle");  
a = scan.nextInt();  
circle c = new circle(a);  
c.printArea();  
break;
```

```
case 4: scan.close();  
break;
```

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

```
}
```

```
}
```

```
}
```