Lab 4

```
import java.util.Scanner;

class InputScanner
{
    protected Scanner scanner;
    public InputScanner()
    {
        scanner = new Scanner (System.in);
    }
    public int getInput (String message)
    {
        System.out.println (message);
        return scanner.nextInt();
    }
}
abstract class shape extends InputScanner
{
    protected int a, b;
    public shape()
    {
        super();
    }
    abstract public void printArea();
}

Class Rectangle extends shape
```

```
{
  protected int a, b;
  public Rectangle()
  {
    super();
  }
  public void printArea()
  {
    a = getInput("Enter length");
    b = getInput("Enter breadth");
    System.out.println("Area of rectangle" + (a*b));
  }
}
class Triangle extends Shape
{
  protected int a, b;
  public Triangle()
  {
    super();
  }
  public void printArea()
  {
    a = getInput("Enter side1");
    b = getInput("Enter side 2");
    System.out.println("Area of Triangle"
    + (0.5*a*b));
  }
```

Week 4

```java
import java.util.Scanner;

public class InputScanner {
    private static final Scanner scanner = new Scanner(System.in);

    public static int getIntInput(String prompt) {
        System.out.print(prompt);
        return scanner.nextInt();
    }
}

abstract class Shape extends InputScanner {
    protected int side1;
    protected int side2;

    public abstract void printArea();
}

class Rectangle extends Shape {
    @Override
    public void printArea() {
        System.out.println("Area of Rectangle: " + (side1 * side2));
    }
}

class Triangle extends Shape {
    @Override
    public void printArea() {
        System.out.println("Area of Triangle: " + (0.5 * side1 * side2));
    }
}

class Circle extends Shape {
    @Override
    public void printArea() {
        System.out.println("Area of Circle: " + (Math.PI * side1 * side1));
    }
}
```

```
public class MainClass {
    public static void main(String[] args) {
        Rectangle rectangle = new Rectangle();
        rectangle.side1 = InputScanner.getIntInput("Enter length of rectangle: ");
        rectangle.side2 = InputScanner.getIntInput("Enter width of rectangle: ");
        rectangle.printArea();

        Triangle triangle = new Triangle();
        triangle.side1 = InputScanner.getIntInput("Enter base of triangle: ");
        triangle.side2 = InputScanner.getIntInput("Enter height of triangle: ");
        triangle.printArea();

        Circle circle = new Circle();
        circle.side1 = InputScanner.getIntInput("Enter radius of circle: ");
        circle.printArea();
    }
}
```