

```
1  /**
2   * Develop a simple 5-function calculator program that allowed the user to
   * select from a menu of operations: add two numbers, subtract two numbers
   * , multiply two numbers, divide two numbers, raise a number to a power, and
   * then enter the two numbers and perform the desired calculation.
3   * This lab was designed to teach you how to use switch statements
4   * @author Aryan Gupta
5   * @version 1.0, 10/14/2015
6   */
7  import java.util.Scanner;
8  import static java.lang.System.*;
9  import static java.lang.Math.*;
10
11 public class Calculator
12 {
13     //Instance variables declared
14     private int firstOperand;
15     private int secondOperand;
16     private String operationType;
17
18     public Calculator()
19     {
20         firstOperand = 0;
21         secondOperand = 0;
22         operationType = "";
23     } //default constructor
24
25     public Calculator(String operation, int firstInt, int secondInt)
26     {
27         firstOperand = firstInt;
28         secondOperand = secondInt;
29         operationType = operation;
30     } //loaded constructor
31
32     //Does the operation the user wanted. It uses a switch statement to compare
   //the operation string the user inputted with 5 common math operations
33     public double doOperation()
34     {
35         switch (operationType) {
36             case "+":
37                 return addNum(firstOperand, secondOperand);
38             case "-":
39                 return subtractNum(firstOperand, secondOperand);
40             case "/":
41                 return divideNum(firstOperand, secondOperand);
42             case "*":
43                 return multiplyNum(firstOperand, secondOperand);
44             case "^":
```

```
45         return powerNum(firstOperand, secondOperand);
46     default:
47         System.out.println( operationType + " isn't what you think it is; think about it");
48         System.exit(0);
49     }
50     return 0.0;
51 } //meathod doOperation
52
53 //A working method, but I want to be cool and use futuristic cool stuff, cool right?
54 //Just comment out the doOperation method above and private methods below and uncomment out the doOperation method below
55 /*
56 //Does the operation the user wanted. It uses a switch statement to compare the operation string the user inputted with 5 common math operations
57 public double doOperation()
58 {
59     switch (operationType){
60         case "+":
61             return (firstOperand + secondOperand);
62         case "-":
63             return (firstOperand - secondOperand);
64         case "/":
65             return (firstOperand / secondOperand);
66         case "*":
67             return (firstOperand * secondOperand);
68         case "^":
69             return ( pow(firstOperand, secondOperand));
70         default:
71             System.out.println("wrong");
72             return 0;
73     }
74 } //meathod doOperation
75 */
76
77 private double addNum(int firstOperand, int secondOperand)
78 {
79     return (firstOperand + secondOperand);
80 }
81
82 private double subtractNum(int firstOperand, int secondOperand)
83 {
84     return (firstOperand - secondOperand);
85 }
86
87 private double divideNum(int firstOperand, int secondOperand)
88 {
```

```
89         return (firstOperand / secondOperand);
90     }
91
92     private double multiplyNum(int firstOperand, int secondOperand)
93     {
94         return (firstOperand * secondOperand);
95     }
96
97     private double powerNum(int firstOperand, int secondOperand)
98     {
99         return ( pow(firstOperand, secondOperand));
100     }
101
102 }
```