Computer Science 262 – Spring 2013
Lab #7

Lab: 03/28/12
Due: 04/04/12 at 1:35PM

Objective: Exception Handling

Implement a simple "English language" calculator that reads input from the standard input in the format

```
<operand1> <operator> <operand2>
```

and evaluates this expression. Your program should support four operators: +, -, * and / and should repeatedly allow the user to enter expressions which are then evaluated.

Use Exceptions to handle the case of *non-integer* data for the operands. (Catch the `InputMismatchException`. You may have to clear the standard input stream afterwards). Your program should also handle a non-valid string being entered for the operator by throwing an `IllegalArgumentException` (and dealing with it somewhere). In both cases, point out the error to the user and ask him/her to re-enter the entire expression. Note that division should perform a Java integer division with no fractional component displayed. In addition, disallow division by zero; simply print out a message identifying the error.

Do your exception handling in separate methods as far as possible. If your code is cluttered or hard to read, you will be asked to redo the exercise.

An sample run is shown below (**user input in bold**). Do your best to simulate it.

```
Starting Calculator v1.0; Enter an expression or Q to quit
>>2 + 3
2 plus 3 is 5
>>2 * 3
2 multiplied by 3 is 6
>>12 - 5
12 minus 5 is 7
>>3 / 2
3 divided by 2 is 1
>>3 / 0
Division by zero is not allowed
>>ab - 5
Invalid operand. Operands must be integer
>>3 + 5a
Invalid operand. Operands must be integer
>>x + y
Invalid operand. Operands must be integer
>>2 & 3
Invalid operator. Operators must be one of +,-,* or /
>>2+3
```

```
Invalid operand. Operands must be integer
>>q
Invalid operand. Operands must be integer
>>Q
Goodbye!
```

Submission

To complete this lab, do the following, in this order:

1. Demonstrate your output to the instructor or the lab assistant.
2. Print out all your code and turn it in, with all sheets stapled.
3. Submit a zipped up folder of your entire BlueJ project to D2L. The submission dropbox folder for this lab is **Lab 7**.

You must complete all these parts BEFORE the given deadline.