Assignment 3: COSC 61 (Fall 2007)
Due Date: 10/22/2007

Write a program that can serve as a simple calculator. This calculator keeps track of a single number (of type double) that is called `result` and then starts out as 0.0. Each cycle allows the user to repeatedly add, subtract, multiply, or divide by a second number. The result of one of these operations becomes the new value of `result`. The calculation ends when the user enters the letter R for “result” (either in uppercase or lower case). The user is allowed to do another calculation from the beginning as often as desired. The input format is shown in the following sample dialogue with the user input in **bold**. If the user enters any operator symbol other than +, -, *, or / then an UnknownOperatorException is thrown and the user is asked to reenter the line of input. Defining the class UnknownOperatorException is part of the assignment.

```
Calculator is on.
result = 0.0
+5
result +5.0 = 5.0
updated result == 5.0
*2.2
result *2.2 = 11.0
updated result == 11.0
& 10
& is an unknown operation.
Reenter your last line :
*0.1
result *0.1 = 1.1
updated result == 1.1
R
final result = 1.1
Again? (y/n)
y
result = 0.0
+10
result +10.0 = 10.0
updated result == 10.0
/2
result /2.0 = 5.0
updated result == 5.0
r
final result = 5.0
Again? (y/n)
N
```

Note: Your program needs to follow Javadoc and java coding style conventions.

The grading criteria for all the work done in this class (including labs) will be as follows:

<table>
<thead>
<tr>
<th>Grading Criterion</th>
<th>Points Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does not compile</td>
<td>0</td>
</tr>
<tr>
<td>Compiles</td>
<td>10</td>
</tr>
<tr>
<td>Input, output, and computation is valid</td>
<td>50</td>
</tr>
<tr>
<td></td>
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<tr>
<td>--------------------</td>
<td>-----</td>
</tr>
<tr>
<td>Test cases</td>
<td>20</td>
</tr>
<tr>
<td>Coding style</td>
<td>10</td>
</tr>
<tr>
<td>Documentation</td>
<td>10</td>
</tr>
</tbody>
</table>

**Submission:** Send an email with subject line as “COSC 61 – Assignment 3” to the instructor with the source code as one zip file, and also hand in the hard copy of the assignment at the beginning of the class on the due date.