

CS205 C/ C++ Program Design - Assignment 2

Please implement a much better calculator than that in Assignment 1.

Requirements:

1. When you run your program and input an express in a line as follows, it can output the correct results. The operator precedence (order of operations) should be correct.

$$\begin{array}{l} 2+3 \\ 5 \\ 5+2*3 \\ 11 \end{array}$$

2. Use parentheses to enforce the priorities

$(5+2)*3$
21

3. Variables can be defined as follows

```
x=3
y=6
x+2*y
15
```

4. Some math functions can be supported

```
sqrt(3.0)
1.7
```

- 5. It can support arbitrary precision.

[illegible]

6. More features which can be found from the calculator BC in Unix-like systems. You can visit this page for more information.

https://www.gnu.org/software/bc/manual/html_mono/bc.html

- To host your source code at GitHub.com is an option. You are strongly recommended to create a repository at GitHub.com to hold your source code for this assignment. If so, you can just put a link in the report of the assignment, and do not need to upload the source code to Blackboard. If you do not host your source code at GitHub.com, please upload your source with your report to Blackboard.

Rules:

1. Please submit your assignment report before its deadline. After the deadline (even 1 second), **0 score!**

(For students who register this course before Sep. 6, they should submit their assignment reports before 23:59 on Sep. 27. For the rest students they should submit their assignment

reports in two weeks after they register.)

2. If you only implement **requirement 1 and 2**, the upper boundary of your score is 80. For a better score, you should implement the rest requirements. Your score will also depend on the quality of your source code and your report. Your report should be easy to understand and describe your work well, especially the highlights of your work.
3. Please pay more attention to your **code style**. After all this is not ACM-ICPC contest. You have enough time to write code with both correct result and good code style. You will get deduction if your code style is terrible. You can read Google C++ Style Guide (<http://google.github.io/styleguide/cppguide.html>) or some other guide for code style.

Report Template:

CS205 C/ C++ Program Design

Assignment 2

Name: Your Name (Chinese name for Chinese students, English name for international students), **SID:** 11X1XXXX

Part 1. Description

Part 2. Result & Verification

In this part, you should present the result of your program by listing the output of test cases and optionally add a screen-shot of the result.

Test case #1:

Screen-short for case #1:

Test case #2:

Screen-short for case #2:

Part 3. Difficulties & Solutions, or others