

CSC 215 – Project 1

February 25, 2018

Due: Friday, March 9, 11:59pm

Objective: Conditionals, loops, and classes in C++

Requirements: Write a program that implements an 8-function scientific calculator.

- Implement this C++ class:

```
class Calculator {
public:
    void add(); // r1 = r1 + r2
    void sub(); // r1 = r1 - r2
    void mul(); // r1 = r1 * r2
    void div(); // r1 = r1 / r2
    void Sin(); // r1 = sin(r1)
    void Cos(); // r1 = cos(r1)
    void Tan(); // r1 = tan(r1)
    void Sqrt(); // r1 = sqrt(r1)
    double getR1();
    double getR2();
    void setR1(double x);
    void setR2(double y);
    Calculator(); // default constructor
private:
    double r1;
    double r2;
};
```

- Use the above class to write an 8-function scientific calculator application.
- Use a loop to present menu choices to the user.
- Here's one possible user interface:

```
C:\Users\owner\Documents\project1>project1.exe
r1 = 0 r2 = 0
Usage: r1 <val>|r2 <val>|+|-|*|/|sin|cos|tan|sqrt|quit r1 4.2
r1 = 4.2 r2 = 0
Usage: r1 <val>|r2 <val>|+|-|*|/|sin|cos|tan|sqrt|quit r2 8.88
r1 = 4.2 r2 = 8.88
Usage: r1 <val>|r2 <val>|+|-|*|/|sin|cos|tan|sqrt|quit *
r1 = 37.296 r2 = 8.88
Usage: r1 <val>|r2 <val>|+|-|*|/|sin|cos|tan|sqrt|quit sqrt
r1 = 6.10705 r2 = 8.88
Usage: r1 <val>|r2 <val>|+|-|*|/|sin|cos|tan|sqrt|quit atan
Error: invalid operator
r1 = 6.10705 r2 = 8.88
Usage: r1 <val>|r2 <val>|+|-|*|/|sin|cos|tan|sqrt|quit quit
Goodbye!
```

What to turn in:

1. At the top of your source file insert a block comment with your name, course, assignment, and a summary comment of the purpose of the file.
2. Comment your code and use proper indentation.
3. Save your work, including a screenshot, in a subfolder named “project1”.
4. Zip your folder and upload it to Canvas.