

Homework #3 – OO Reduce a Fraction

Description

Create a program to accept input of a fraction from the user or a command to quit; there shall be only one prompt for the fraction or quit command (i.e., input a single string). Output the fraction in reduced form. Continue to accept input until the user specifies to quit. The fraction shall be entered in the form of i/j , where i and j are integers. The forward slash (/) is part of the input (absence of the slash is an error condition).

Reuse the code from Homework #1. Implement a fraction class using the following definition:

```
class Fraction
{
    public:
        Fraction(string input);
        ~Fraction(void);
        void reduce(void);
        string getOutput(void);

    private:
        // You to decide on the internals of the class
};
```

Requirements

- Use a class as the data structure to hold your fraction.
- Implement your reduction algorithm in the Fraction class. Output the reduced Fraction in main.
- You may not use stringstream (or anything like unto it).

Output

Example (user input is shown in **bold**):

```
Enter a fraction to be reduced (such as 30/45) or quit
Input: 30/45
2/3
Input: 78/-100
-39/50
Input: 0/5
0/5
Input: 3/0
Error: cannot divide by zero
Input: 52%30
Parse error
Input: 52/3a0
Parse error
Input: 11/
Parse error
Input: quit
```