Homework #1 – 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).

Requirements

- Use a struct as the data structure to hold your fraction. The struct shall consist of two integers, a numerator and a denominator.

- Implement your reduction algorithm in a function other than main. Output the fraction from a function other than main and the reduction function.

- 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
```