ECE 1410 Rational Numbers Program Requirements

*Adapted from Deitel & Deitel (1994)

Task

Using Microsoft Visual Studio, write a program that includes a class called Rational for performing arithmetic on fractions. The Rational constructor should store a numerator and a denominator. The class should contain the following public member functions:

- void `Rational::add(int n, int d)` – Adds a fraction to the current fraction
- void `Rational::sub(int n, int d)` – Subtracts a fraction from the current fraction
- void `Rational::mul(int n, int d)` – Multiplies the current fraction by a new fraction
- void `Rational::div(int n, int d)` – Divides the current fraction by a new fraction

The results of all arithmetic operations overwrite the previous values. Fractions should always be represented in reduced form.

The `main()` function should ask for an initial numerator and denominator, then enter a menu-driven loop where the various arithmetic operations can be performed. Use a try/catch block to check for illegal menu selections.

Submit a .zip file to Canvas that contains three files: main.cpp, rational.cpp, and rational.h.

Examples