Follow Coding Standards

Day 4 Assignments

1. Create a class called Rational for performing arithmetic with fractions.

Write a program to test your class. Use integer variables to represent the private data of the class—the numerator and the denominator. Provide a constructor that enables an object of this class to be initialized when it’s declared.The constructor should contain default values in case no initializers are provided and should store the fraction in reduced form. For example, the fraction would be stored in the object as 1 in the numerator and 2 in the denominator. Provide public member functions that perform each of the following tasks:

* Adding two Rational numbers. The result should be stored in reduced form.
* Subtracting two Rational numbers. The result should be stored in reduced form.
* Multiplying two Rational numbers. The result should be stored in reduced form.
* Dividing two Rational numbers. The result should be stored in reduced form.
* Printing Rational numbers in the form a/b, where a is the numerator and b is the

denominator.

1. Imagine a tollbooth at a bridge. Cars passing by the booth are expected to

pay a Rs.5 toll. Mostly they do, but sometimes a car goes by without paying.

The tollbooth keeps track of the number of cars that have gone by, and of the

total amount of money collected.

Model this tollbooth with a class called tollBooth. The 2 data items are a type

int to hold the total number of paid cars passed by and no: of non paid cars

passed by , and a third data item of type double to hold the total amount of

money collected. A constructor initializes both these to 0. A member function

called payingCar() increments the no: of cars passed by and adds Rs 5 to the

cash total. Another function, called nopayCar(), increments the no: of cars

passed by but adds nothing to the cash total. Finally, a member function

called display() displays the count with the total amount collected from

payingcar.