

Assignment 6 Intro to C++

Value: 10pts

Due at the beginning of the next session.

This assignment is to use template classes. Hand in the files you write, and console output to demonstrate correct operation of your program.

Using the template class `list<T>`, and the class “Fractions” we wrote in class, write a program that gets input from the console as a pair of integers. For each pair of integers, create a fraction with the first integer as the numerator and the second integer as the denominator.

Add each fraction to the list, but keep only the most recent four fractions. Compute the average of the last four values as a fraction and print it out. Be sure to handle the exceptions that the Fraction class generates. If the list is over four elements long, discard the oldest element.

To end the program, enter 0 0.

Test your program in main. A partial sample of your testing should be:

```
1 2
1/2 averages to: 1/2
1 3
1/3 + 1/2 averages to: 5/12
1 4
1/4 + 1/3 + 1/2 averages to: 13/36
1 5
1/5 + 1/4 + 1/3 + 1/2 averages to: 77/240
1 6
1/6 + 1/5 + 1/4 + 1/3 averages to: 19/80
1 6
1/6 + 1/6 + 1/5 + 1/4 averages to: 47/240
1 6
1/6 + 1/6 + 1/6 + 1/5 averages to: 7/40
1 6
1/6 + 1/6 + 1/6 + 1/6 averages to: 1/6
0 0
```