

Homework 8

Dr. Manna

CS 10 | 30 points | due: 03/08/17 @ 11:59 pm

Problem statement

1. (15 points) Create a structure Fraction which contains a numerator and a denominator.
 - a. Write a function `void printFraction(Fraction f)` which prints out a fraction in the following format; e.g. if the numerator is 2 and the denominator is 5, it will print out 2/5
 - b. Write a function `Fraction mult(Fraction f1, Fraction f2)` which returns a new fraction which is the product of f1 and f2.
 - c. Write a function `Fraction add(Fraction f1, Fraction f2)` which returns a new fraction which is the sum of f1 and f2. You may simply multiply each fraction by the other's denominator to find a common denominator; e.g. $(3/4) + (5/6) = (3*6/4*6) + (5*4/6*4) = 38/24$. You do NOT have to reduce the fractions.
2. (15 points) You'll find a program using a Student struct (`student.cpp` uploaded in Camino under hw 8.2). You've been given a skeleton of the code, but you need to fill in the parts of the functions relating to the `Transcript` variable; note that in addition to `initializeStudent` and `printStudent`, I've also incorporated a `mergeStudent` function. You will modify `printStudent`, `initializeStudent`, and `mergeStudent` to handle the parts of the Student relating to their Transcript.

In `initializeStudent`, you should add code to read in the students' courses and grades. From the grades entered, you should compute the student's gpa.

In `printStudent`, you should add code to print out the students' courses and grades, and their gpa.

In `mergeStudent`, you should add code that will include **all** courses from **both** students (but with no duplicates) and compute the new gpa, and store these values into the returned Student. The idea of the `mergeStudent` function is that there may be two duplicate variables representing the same student, and you want to come up with a new variable based on those.

Submission instructions

Please upload .cpp files for both hw8.1 & 8.2 questions to Camino under Assignment→ Homework 8→ Please email me or use the discussion board for clarification. Please make sure your code has comments and they should be properly indented.