CS 2024: Assignment 2 Report

The problem we are solving in this assignment is to build an employee class to keep track of the names and salaries of the individual employees. The employee class is required to have fields for the first name, the last name, and the salary of the employee. The class must also have a constructor to initialize the fields for each instance of the class. Furthermore, since we don’t want direct access to each of the fields in the class, we need to create setter and getter functions for each of the fields. In addition, since having a negative salary is impossible, when the salary is negative, the number stored in the salary field should be rounded up to 0. Finally, to demonstrate proper creation of the program, we need to build a test in which we build two employees and assign them both individual names and salaries. Then, we increase both of their salaries by 10% and use the getter method to check that the increase in salary has been recorded in the instances of the employee class.

The problem was solved by writing an employee class that had the necessary three fields of last name, first name, and salary. These fields were set to private to prevent direct access to the fields. In addition to these three fields, the class also has all of the necessary getter and setter functions to support the three fields. These setter, getter, and constructor functions are all made public to allow access to the methods. This was done by writing a header file called EmployeeH.h in which I specified all of the fields and methods. In the header file I only specified what names I would use for the functions and I did not define what each function did. Then I included the header file in the EmployeeCPP.cpp file where I defined all of the methods that I wrote in EmployeeH.h. Finally, I then wrote the main method in main.cpp where I wrote out the testing script to prove that my class implementation does work. In my main.cpp file I create two instances of the class and use the constructor to assign a first name, last name, and salary to each of the instances. I print out what the salary for each employee instance is and then I decide to increase each employee’s salary by 10%. I then print out what the new salary for each employee is.

The main point of this project was to get me back into the coding thought structure and familiarize myself with C++ syntax. During this project, I made two big blunders which took some time to figure out since the C++ error reporting system is really bad. First, I forgot to put a semicolon at the end of my Employee class structure in the EmployeeH.h header file. This caused me to get numerous cryptic errors since C++ refused to recognize the employee class as a class since I had not used proper syntax to define it. The second big blunder I made was to import the EmployeeCPP.cpp file into the main.cpp document instead of the EmployeeH.h header file. This caused the linker to fail while compiling because it thought I was defining the class twice, in the EmployeeCPP.cpp file and the included EmployeeH.h file. This caused the link to return fatal errors can fail compilation.