

CSCI 2010 Assignment 6

OBJECTIVES

This assignment has you work with classes.

Q1: Textbook Page 791 (depending on edition)

Chapter 13, Programming Challenges **2, Employee Class** [50 points]

- For this question, name your class `<my name>Employee`. For example, my class would be named: `LeongLeeEmployee`.
- Do NOT use inline member functions for the three constructors mentioned.
- You need to submit the following files:
 1. `<my name>Employee.h`: Specification for class should be in this **.h** file
 2. `<my name>Employee.cpp`: Member function implementations of the three constructors should be in this **.cpp** file
 3. `<my name>Employee_Demo.cpp`: You also need to write a separate program to test the class. In other words, `main()` is here.

Important: If you do not put `<my name>` to the above mentioned fields (class name and filename), **you will get 0 point for the question.**

Estimated time: 3 hours

Q2: Textbook Page 796 (depending on edition)

Chapter 13, Programming Challenges **14, Freezing and Boiling Points** [50 points]

- For this question, name your class `<my name>FreezeBoil`. For example, my class would be named: `LeongLeeFreezeBoil`.
- Use inline member functions for all the method functions mentioned.
- You need to submit the following files:
 1. `<my name>FreezeBoil.h`: Specification (and inline member functions) for class should be in this **.h** file
 2. `<my name>FreezeBoil_Demo.cpp`: You need to write a separate program to test the class. In other words, `main()` is here.

Important: If you do not put `<my name>` to the above mentioned fields (class name and filename), **you will get 0 point for the question.**

Estimated time: 3 hours

Submission instructions:

You need to compile the above programs (questions) separately, and provide **two test cases** (if applicable) for each program (question). Do a screen capture of the input and related output for each test case. Use any graphic editing software (e.g. Microsoft Paint, Adobe Fireworks) to cut out the program input and output (from

the screen capture), paste them into a word document under a related question number, save the document as a pdf file. A sample input/output (screen capture) can be found at the end of this document.

You need to submit the following:

1. A pdf file containing the screen captures of program input and output of all test cases, name the file **lastname_firstname_assignment06.pdf**.
2. All .h and .cpp files (5 files in total for this assignment). Zip your .cpp files into a single zip file (or rar file) **lastname_firstname_assignment06.zip**.

Please submit electronic copy (the above mentioned **two files**) to D2L digital dropbox. If you cannot follow the above instructions, points would be deducted.

Grading guidelines (programming questions):

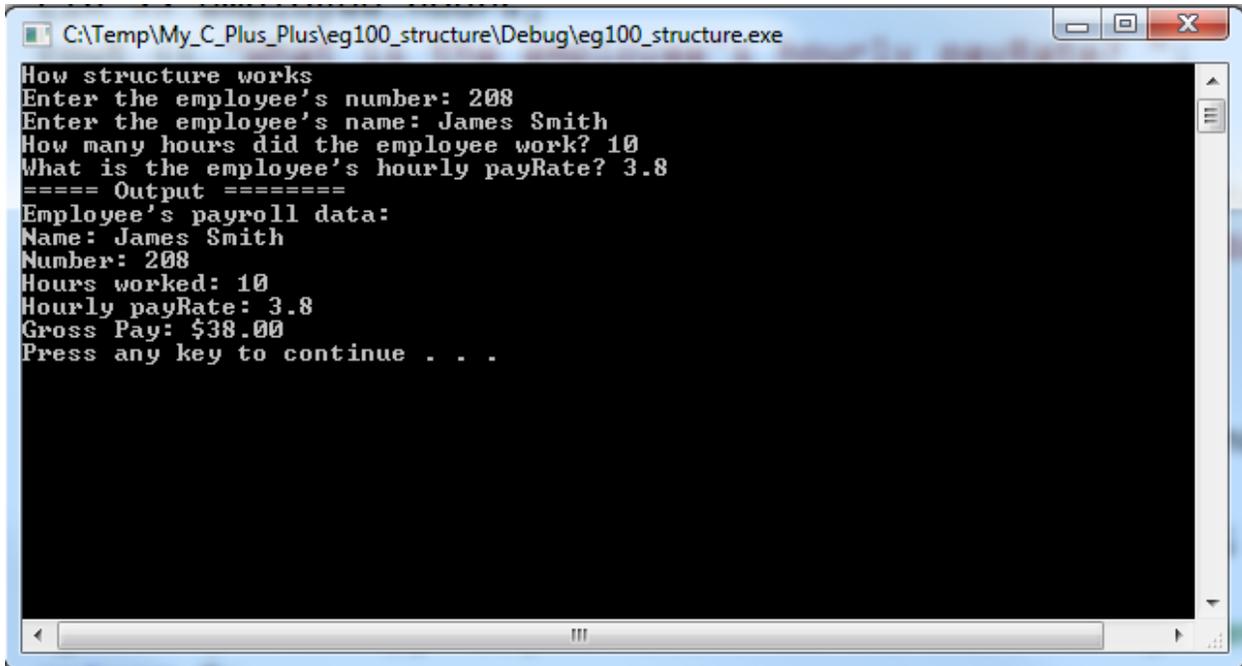
Your programs will be judged on several criteria, which are shown below.

- Correctness (50%): Does the program compile correctly? Does the program do what it's supposed to do?
- Design (20%): Are operations broken down in a reasonable way (e.g. classes and methods)?
- Style (10%): Is the program **indented** properly? Do variables have **meaningful names**?
- Robustness (10%): Does the program handle erroneous or unexpected input gracefully?
- Documentation (10%): Do all program files begin with a **comment** that identifies the author, the course code, and the program date? Are all the classes, methods and data fields clearly **documented (comments)**? Are unclear parts of code **documented (comments)**? (Some items mentioned may not apply to some languages)

A program that does not compile will get at most **50% of the possible points**.

Sample input/output (screen captures)

Assignment X, test case 1, input/output:



```
C:\Temp\My_C_Plus_Plus\eg100_structure\Debug\eg100_structure.exe
How structure works
Enter the employee's number: 208
Enter the employee's name: James Smith
How many hours did the employee work? 10
What is the employee's hourly payRate? 3.8
===== Output =====
Employee's payroll data:
Name: James Smith
Number: 208
Hours worked: 10
Hourly payRate: 3.8
Gross Pay: $38.00
Press any key to continue . . .
```

Screen capture must be readable by the instructor, or 0 point will be given.

Please note that you can use more than one screen captures for each test case.