

CSCI 2010 Assignment 3

OBJECTIVES

This assignment has you work with pointers and arrays.

INSTRUCTIONS

Write a program that stores the data about the latest monthly profit made of a team of bank traders.

Create a project in Visual C++ Express named **<my name>Assignment3** and add a .cpp file named **<my name>pass3.cpp**.

The program should read the latest profits traders made into an array. Assume up to **10** traders could be entered. Input will stop when the sentinel value **-999** is entered.

Write **functions** to:

- Read the original profits into arrays
- Traders would receive awards based on their profit level. Compute the distribution of profits according to the following scheme, i.e., count numbers of Platinum, Gold, Silver, Bronze and Warning etc.
 - Platinum: \geq \$100,000
 - Gold: \$70,000 - 99,999
 - Silver: \$40,000 - 69,999
 - Bronze: \$10,000 - 39,999
 - Warning: below \$10,000
- Display number of traders, the distribution of profits.

The program **must use pointer** instead of index to access the elements in the array. Once the arrays are passed into the functions, assign them to a pointer and only use the pointer to access and modify the array for the rest of the function.

Estimated time: 5 hours

SAMPLE RUN

Your output should look similar to the following. Things in bold are typed by the user.

```
Welcome to the trader monthly profit manager!

Enter profit for trader 1 (or -999 to quit): 85000
Enter profit for trader 2 (or -999 to quit): 60000
Enter profit for trader 3 (or -999 to quit): 71000
Enter profit for trader 4 (or -999 to quit): 44000
Enter profit for trader 5 (or -999 to quit): 20000
Enter profit for trader 6 (or -999 to quit): 110000
Enter profit for trader 7 (or -999 to quit): 210000
Enter profit for trader 8 (or -999 to quit): 5000
Enter profit for trader 9 (or -999 to quit): -999
REPORT
```

```
-----  
Number of traders: 8  
  
Number of Platinum: 2  
Number of Gold: 2  
Number of Silver: 2  
Number of Bronze: 1  
Number of Warnings: 1
```

Submission instructions:

You need to compile the above program, and provide **two test cases** (if applicable). 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_assignment03.pdf**.
2. A .cpp file **<my name>pass3.cpp** (e.g. lastname_firstname_pass2.cpp).

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):

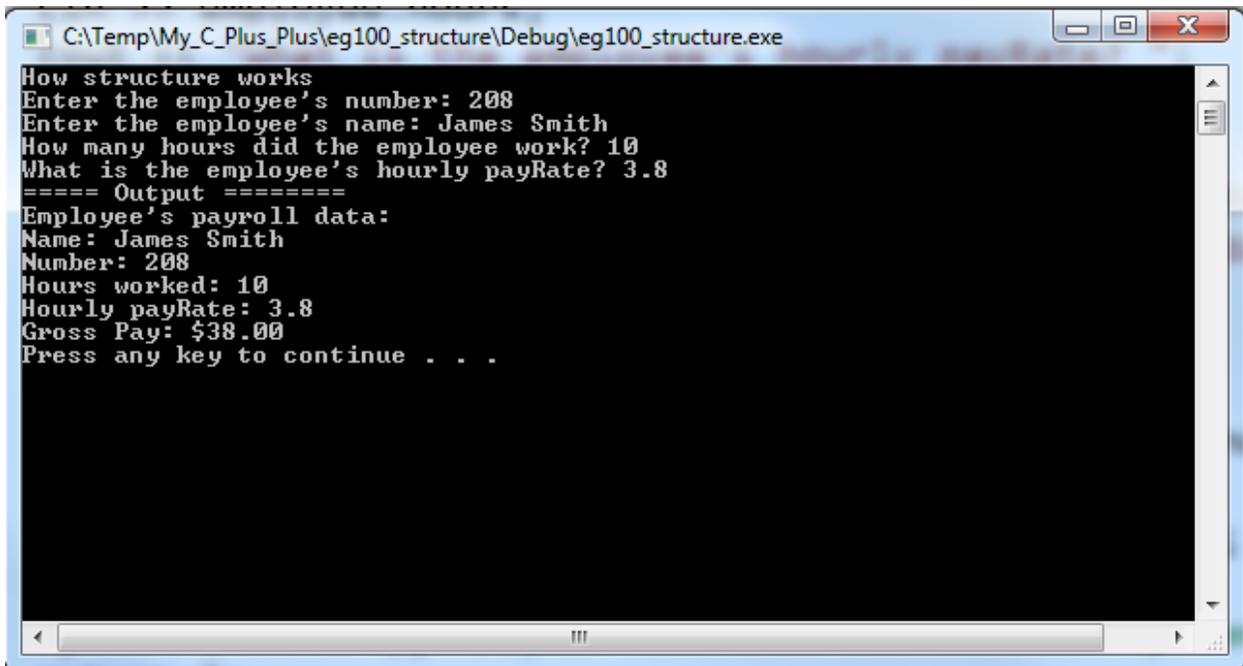
Your programs will be judged on several criteria, which are shown below.

- 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.