C/C++ PROGRAMMING (IT116IU)

Final Lab Exam



Due date: Please check on Blackboard

Instruction

Please follow the steps:

- 1. For each question, please make your code clean and make sure that your code is runnable.
- 2. Open the provided problem sets (.docx file). For each exercise, please capture screenshots of your work and then paste them into the problem sets (.docx file). DO NOT create a new answer file!
 - Please convert this .docx file to .pdf file
- 3. Submit these files (source code and problem set files) to Blackboard before the deadline.
- 4. There are a total of 7 Lab Assignments in this course. $\frac{3}{7}$ Lab Assignments will be randomly selected to score ($\sim 10\%$ of your final score).
- 5. The final lab exam will be 10% of your final score.

Lab Assignments

Question 1. (30 points)

One large chemical company pays its salespeople on a commission basis. The salespeople receive \$200 per week plus 9% of their gross sales for that week. For example, a salesperson who sells \$5000 worth of chemicals in a week receives \$200 plus 9% of \$5000:

$$200 + 5000 * 9/100 = 650 (\$)$$

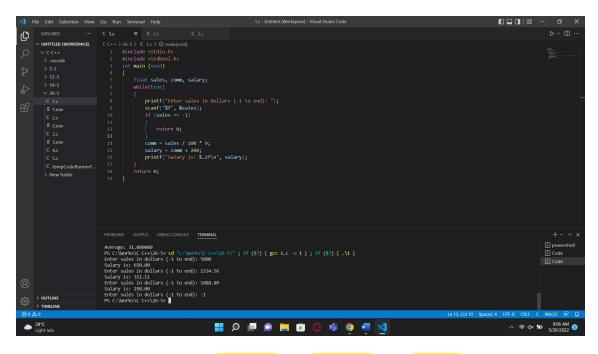
Develop a program with functions that will input each salesperson's gross sales for last week and will calculate and display that sales person's earnings. Process one sales person's figures at a time. Here is a sample input/output dialog:

```
Enter sales in dollars ( -1 to end): 5000.00 Salary is: $650.00

Enter sales in dollars ( -1 to end ): 1234.56 Salary is: $311.11

Enter sales in dollars ( -1 to end ): 1088.89 Salary is: $298.00

Enter sales in dollars ( -1 to end ): -1
```



Question 2. (30 points) Develop a program with a function using pointers to compute the sum and average of all elements stored in an array of n numbers.

Example:

Enter the number of elements

4

Enter the array elements

34

22

56

12

Sum = 124

Average = 31

Question 3. (40 points) Write a C program with 3 functions to implement string operations, including compare, concatenate, and string length. You are not allowed to use any libraries except stdio.h and string.h

Example: 1.String length 2.string comparision 3.string concatenation 4.quit enter your choice 1 enter string **HCMIU** the length of string= 6 1.String length 2.string comparision 3.string concatenation 4.quit enter your choice enter string 1: **HCMIU** enter string 2: **HCMIU** strings are equal 1.String length 2.string comparision 3.string concatenation enter your choice enter string 1: **HCMIU** enter string 2: ITIU strings are NOT equal 1.String length 2.string comparision 3.string concatenation 4.quit enter your choice enter string 1: I love IU enter string 2: VNU-HCM The Result: "I love IU VNU-HCM"