Lab 01
Review

Department of Software Engineering-FIT-VNU-HCMUS

1

Notes

Create a single solution/folder to store your source code in a week.

Then, create a project/sub-folder to store your source code of each assignment.

The source code in an assignment should have at least 3 files:

- A header file (.h): struct definition, function prototypes/definition.
- A source file (.cpp): function implementation.
- Another source file (.cpp): named YourID_Ex01.cpp, main function. Replace 01 by id of an assignment.

Make sure your source code was built correctly. Use many test cases to check your code before submitting to Moodle.

Name of your submission **StudentID_Week_NumCompleteAssignments.zip**, for example: **18125001_W01_07.zip**

2

Content

In this lab, we will review the following topics:

- How to declare, define and call a function.
- How to use array.
- How to use C-string.
- How to use struct.
- How to load data from a text file, or save data to a text file.

3
Assignments

Inclass assignment: 1 problem / assignment.

Homework: 7 problems / assignments.

You must submit at least 3 files for each project/assignment: a header file to declare all structures and functions, a cpp file to implement all declared functions and another cpp file containing your main() function.

3.1. Assignment 1

Write a program to load an array of fractions from a text file. Sort the array in ascending order and save the array to another text file.

```
input.txt
3
3 4
-4 5
1 2
```

3.2 Assignment 2

Write a program to load an array of circles. Sum of their area and save the result to another text file.

```
input.txt
3
3 4 1.2
-4 5 4.6
1 2 7.0
```

Note: 3 4 1.2 means a circle with center point is at (3,4) and radius is 1.2

3.3. Assignment 3

Write a program to load an array of dates. Sort the array in ascending order and save the array to another text file.

```
input.txt
3
2019 1 4
2019 12 31
2019 1 15
```

3.4. Assignment 4

Write a program to load an array of products (id, name, stock, price). If I buy all products, how many money I have to pay?, save the result to another text file.

```
input.txt
2
1
iPhone XS Max
10
40000000
2
Samsung Galaxy Note 9
2
23000000
```

3.5. Assignment 5

Write a program to load an array of students (id, full name, gpa). Find the student with max gpa, if there are more than 1 answer, choose id-less-than student.

From now, for Codeforces/Hackerrank/Leetcode… assignments, you need to submit 2 files: a source code cpp file, and an image/screenshot to prove that your code is ACCEPTED on Codeforces/Hackerrank/Leetcode.

3.6. Assignment 6

http://codeforces.com/problemset/problem/10/A

3.7. Assignment 7

http://codeforces.com/problemset/problem/11/A