ASSIGNMENT 05 – PRF192

Duration: 90'

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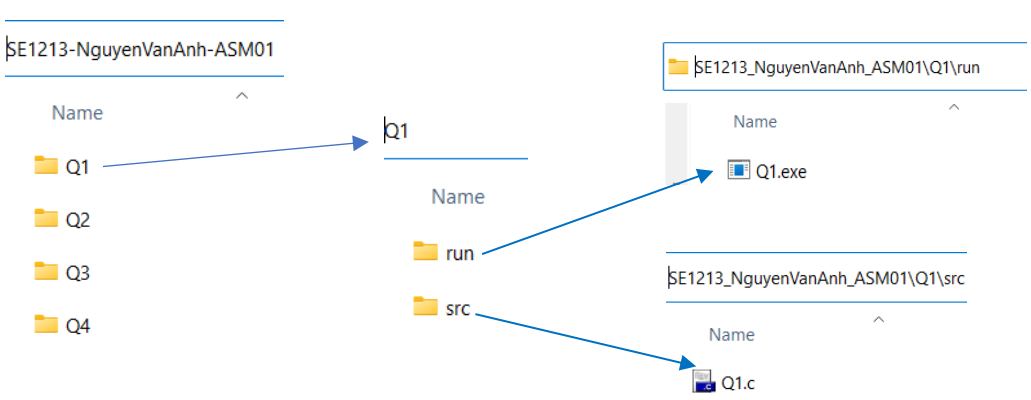
Software Requirements

- Dev C++ 5.11, NotePad, Command Prompt, WinRAR / WinZip with Windows Explorer (File Explorer) on Windows 7 and above.

Instructions

- Step 1: Students download the given materials from LMS.
- Step 2: Students read questions and prepare answers in the given template.
- Step 3: Prepare to submit the answer:
  - For each question (e.g., question **Q1, Q2, Q3,…**), please create two sub-folders: **run** and **src**.
  - Copy the *.**exe** file into the **run** folder, and the *.**c** file into the **src** folder.
- Step 4: Submit a solution for each question:
  - Create a folder formatted: RollNumber_FullName_ASMxx (xx: 01, 02,..) that contains folders (created Step 03) as the below example:
  - 

  - Use WinRAR / WinZip tool to compress the **RollNumber_FullName_ASMxx** folder and submit it to LMS

❖ **Importance:**

- *Do not change the names of the folders, files, and struct (format) of .c files specified in the assignment. If you change it, the grading software can not find the execute file (.exe) or the output results to score, thus the mark will be 0*
- *Do not edit given statements in the **main** function. If you change, the grading software can not score , thus the mark will be 0.*

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Question 1: (2 marks)

The given file Q1.c already contains statements to input data for an integer variable named **n** (n > 0). You should write statements to count and sum the number of odd digits of n.

Notes:

- *Do not edit given statements in the **main** function.*

- You can create new functions if you see it is necessary.

Sample input and output:

Input: n = 31827

After processing: count = 3, sum = (3 + 1 + 7) = 11

Output for marking:

OUTPUT:

3,11

Question 2: (2 marks)

The given file Q2.c already contains statements to input the integer variable named **n (n>0)**. You should write statements to calculate expression value:

$$S(n) = \frac{1}{\sqrt{1}} + \frac{2}{\sqrt{2}} + \frac{3}{\sqrt{3}} + \ldots + \frac{n}{\sqrt{n}}$$

Notes:

- *Do not edit given statements in the **main** function.*

- You can create new functions if you see it is necessary.

- The output result is formatted in two decimal places

Sample input and output:

Input: n = 5

After processing: S(5) = $1/\sqrt{1} + 2/\sqrt{2} + 3/\sqrt{3} + 4/\sqrt{4} + 1/\sqrt{5}$ = 8.38

Output for marking:

OUTPUT:

8.38

Question 3:(2 marks)

The given file Q3.c already contains statements to input the string named **s**. You should write statements to convert the string to uppercase then print the words in the string in reverse order (each word is separated by a space).

Notes:

- *Do not edit given statements in the **main** function.*

- You can create new functions if you see it is necessary.

Sample input and output:

-Input: s = “ nguyen vAn aNh ”

After processing: ANH VAN NGUYEN

Output for marking:

OUTPUT:

ANH VAN NGUYEN

Question 4: (2 marks)

The given file Q4.c already contains statements to input the integer 1-D array named **a**. You should write statements to print out the last prime in an array. If the array has no prime then return the first element of the array (the prime start from 2).

Notes:

- *Do not edit given statements in the **main** function.*

- You can create new functions if you see it is necessary.

Sample input and output:

-Input: n = 9

Array a : 9 8 4 6 13 2 11 14 1

After processing: 11

Output for marking:

OUTPUT:

11

-Input: n = 7

Array a : 9 8 4 6 10 12 14

After processing: 7

Output for marking:

OUTPUT:

9

Question 5: (2 marks)

The given file Q5.c already contains statements to input the string named **s**. You should write statements to print out the sum of the digits in the string.

Notes:

- *Do not edit given statements in the **main** function.*

- You can create new functions if you see it is necessary.

Sample input and output:

-Input: s = “aBc1e2F3g”

After processing: 1+2+3 = 6

Output for marking:

OUTPUT:

6