Spring 2021

CSCI 2450: HW3 (Programming Assignment) (10 points)

Problem 1 (5 points): REVERSE-A-STRING

Write an assembly language program that reverses an input string.

Requirements:
Write an assembly language program that reverses an input string of length at least 10 (you may have a hard-coded input): The variable you will be using for the input string should contain the final output string as well. For example, if a variable named myString contains the input "abcdefghij", the same variable should have the result "jihgfedcba" when the program terminates. You can only use the instructions from chapters 03 and 04. If needed you may use arithmetic instructions like add, sub, mul, and div. You must NOT use "push" and "pop" operations.

- **Input:** Your input is a string of byte values.
- You may use any concepts from chapter 3 and 4.
- **Output:** The reversed string should be stored in the original input string. You may also use an *Irvine32 library* procedure to show this string on output screen.

Problem 2 (5 points): Summation

Write an assembly language program to calculate the sum of an array of 10 32-bit integers using loop(s). You may hard-code the input integers. Save the sum in register EAX.

Requirements:

- **Input:** Your input is an integer array.
- You may use the concepts of jump and loop.
- **Output:** The summation should be in register EAX. You may also use an *Irvine32 library* procedure to show this value on output screen.

Submission & Marking Guideline

- Apply good programming practices with ample comments/documentation in your source code.

- This is an individual assignment. Do not share your work with others. **University Honors Code will be strictly enforced for potential copying and academic dishonesty.**

- **Deadline**

  April 8, 2021 Thursday 11:59pm

- **Submission**
- For problem 1: your solution must be an assembly language file (.asm). Follow this naming convention:

  Firstname_Lastname_HW3_Prob1.asm

- For problem 2: your solution must be an assembly language file (.asm). Follow this naming convention:

  Firstname_Lastname_HW3_Prob2.asm

- Create a zip archive/file with the above two files and upload them on Moodle through the submission link. The name of your final zip file must be: **Firstname_Lastname_HW3**

You may email me your work only if Moodle is not working.

ASSISTANCE AVAILABLE: All office hours and tutoring sessions are currently being held virtually through Zoom. You may ask clarifications on this assignment by (virtually) attending a session with **the helpdesk**. Or, ask me during my office hours.

DO NOT PROCRASTINATE. START EARLY. Good Luck!