CSCIU 210 – Computer Organization

Homework-6, Weight: 40 points

Due on Wednesday, November 14, 2018 at the beginning of the lecture (on Blackboard or Hard Copy)

Purpose: This assignment is designed to help you to get familiar with SPIM simulator and some of its service call functions.
Turn in Method: Turn in your MIPS program via Blackboard or the printout of your program at the beginning of the class on Nov 14, 2018.
Important: You must put your name in the first line of your program as program comments. Deduction will be given for failing to provide this information at the beginning of your program!

Project Description:

Write a MIPS program that conducts the following functions.

(1) Prompt the user for his/her name. You can use the prompt, "Please Enter Your Name: ". The user might input "David Hume." The length limitation of the name is 40 characters.
(2) Print out the following greeting message with the name the user entered, for example, "Hello! David Hume."
(3) Prompt the user to enter the first integer. The prompt can be "Please enter the 1st number:"
(4) Prompt the user to enter the second integer. The prompt can be "Please enter the 2nd number:"
(5) Compare the first and the second numbers to see they equal to each other.
    a. If they equal to each other, print out message like "3 equals to 3." **Note**: the two numbers are what the user entered.
    b. Otherwise, print out the message like "4 does not equal to 3." **Note**: the two numbers are what the user entered.
(6) Change to the new line in the console window.
(7) Calculate the sum of these two numbers and print out this result in the following format "Their sum equals to 7."
(8) Change to the new line in the console window and finish the program. The ASCII code for changing to a new line is `\n`

MIPS Commands You Might Need:

```
li, la, move, add, sub, bne, beq, j, slt.
```

Note: These commands are provided for you convenience, you should not assume that they are the only commands you need for this assignment.

- You can use the following program as your start point:

```
.data                                          # data
prompt:    .asciiz  "Please enter your name (last, first):    "
yname:     .asciiz  "xxxxxxxxxxxxxxxxxxxxxxxxxx"

.text
.globl main                        # INSTRUCTIONS
main:      li   $2, 4              # print prompt
           la   $4,  prompt
           syscall
           li   $2, 8              # read string
           li $5, 20               # length of string = 20
           la $4, yname
           syscall
           li   $2, 4              # print result
           la   $4, yname
           syscall
           li   $2, 10             # exit program
           syscall
```

After executing your program, the SPIM console window might look like one of following windows: