EE/CS/CPE 3760 Program 1

**Note: Work on this assignment individually. Nobody else should see your code. You may discuss high-level strategies as in other programming courses.  
  
Tip: There are several code examples on the course site. Look through these before starting this program.**

You are to write a program in MIPS assembly for use in the SPIM simulator. The program will implement a single player guessing game which works as follows:  
  
Program Specifications:

1. The program will ask the player to try to guess the secret number and receive a numerical input from the player.
2. If the player’s number does not match the secret number, the program will output a message to indicate if the number guessed is too high or too low, and ask the player to enter a new number (go back to step 1) unless the maximum number of tries (10) has been reached.
3. If the number guessed by the player matches the secret number, a congratulatory message will be displayed, followed by the number of tries it took the player to guess the secret number. The program will end at this point.
4. If the maximum number of tries (10) has been reached and the player has not guessed the secret number, a “you lose” or similar message will be displayed. The program will end at this point.

Programming Requirements:

1. Your code must be well-commented to receive full credit. This means **any non-trivial line of code must have an accompanying comment**. For examples of appropriate comments, refer to any of the code examples on the course site.
2. Add appropriate welcome/goodbye messages to the program (in addition to the prompt messages, etc. as part of the game).
3. You must hardcode the “secret” number as a single word in memory in the .data section of the assembly code. Change the number for each test case below.
4. Test your program using the following inputs.
   1. Secret number: 4 Guesses: 42 23 16 15 8 4
   2. Secret number: 17 Guess: 17
   3. Secret number: 11 Guesses: 1 2 3 4 5 6 7 8 9 10
   4. Secret number: <Last two digits of your student ID> Guesses: Five wrong guesses of your choice followed by the correct number.

Turning in your solution:

1. Save your code as a “.s” file, and name it using the following convention: “last\_first\_prog1.s”. For example, “Skywalker\_Luke\_prog1.s”.
2. Take screenshots of the four test cases, and submit as a single PDF or docx file. Name the document using the following convention: “last\_first\_prog1.pdf”. For example, “Skywalker\_Luke\_prog1.pdf”.
3. Upload both your program file and screenshots to Canvas. Make sure to upload **both files**.

Sample I/O Screenshots. You may choose different wording for the prompts and responses as long as they meet the specifications and requirements.



