ITSC 2181 Introduction to Computer Systems

Module 06 - Unit 2 Lab #1
Write Two C programs for RISC-V Assembly Programming

- In this lab, you will write two C programs that will be used for the future labs.
- You may use your course Virtual Machine (VM) or https://repl.it/languages/c

Part 1

Implement a C program to accumulate integer numbers from 1 to 100:

1. Write a program in C that accumulates (sums) the integers from 1 to 100 together using a `for` loop.

2. The program should print the result (using `printf`) and also return the value of the accumulation (`return`).

3. Execute the program and make sure it produces the expected output (5050).

Part 2

Implement a C program to find the average of 100 integers that are randomly generated. The C program MUST follow these steps:

1. Declare an `int` array of 100 elements.
2. Use a `for` loop to generate 100 random integers and store them in the array.
    a. Use the `rand()` function to generate an `int` between 0 and 100.
    b. How to use the `rand()` function to generate random numbers can be found at the following resource: C library function - rand().

3. Use another for loop to accumulate those numbers by reading them from the array and adding up to a variable.

4. Calculate the average by dividing the accumulated sum by 100.

5. Print the average and return it.

6. Your program should NOT do the number generation and accumulation in one loop. You must use two separate loops.

Submission: Upload the two source (`.c`) files on canvas.