

COMP 3350 Project #1

Registers and arrays

Possible points: 100

Due: March 1, 2019 4:59pm

No homework will be accepted after the due date, so make sure to start as early as you can. You might face some issues and need the GTA help.

Assignment Goal:

Get you familiar with :

1. Microsoft Macro Assembler (MASM) on Visual Studio.
2. Setting up an assembly program.
3. Defining and accessing Arrays.
4. Dealing with Registers and instructions.
5. Debugging and running your assembly code.

Deliverables:

Submit the source file (.asm) to Canvas before the due date. This should be the only file you should submit to Canvas.

The file should be named {USERNAME}_P{NUMBER}.asm

USERNAME is your auburn email without "@auburn.edu"

E.g. abc0003_P1.asm

Specifications:

The objective of this assignment is to create a program that will read a value from an array, add another value to this, and save the sum of those two values into a specific register.

Design:

Create a BYTE array with the label 'input'. 'input' should have eight elements. You may place any legal values in each of the elements of this array.

Create a BYTE variable with the label 'shift'. 'shift' should hold a single value. You will sum the value of this variable with each of the individual values in the array.

Set the values of the EAX, EBX, ECX, and EDX to 0.

The program should then read each of the values from the array 'input' one at a time and add the value 'shift' to it. The sum should be stored in the "correct" register.

Correct is defined as:

The first and second sums should be in the AX register.

The third and fourth sums should be in the BX register.

The fifth and sixth sums should be in the CX register.

The seventh and eighth sums should be in the DX register.

E.g. If 'input' has the values "1,2,3,4,5,6,7,8" and the value of 'shift' is 2 then, after the program has finished all sums, EAX should have the value 00000304, EBX 00000506, ECX 00000708, and EDX 0000090A.

Late Submission Penalty:

- Late submissions will not be accepted and will result in a ZERO without valid excuses, in which case you should talk to Dr. Li to explain your situation.
- GTA/Instructor will NOT accept any late submission caused by Internet latency or internet issues.