

40 pts

Name: _____

Class Day / Time: _____

Due Date: _____

Lab #9 – Assembly - Table Driven Selection

In this lab you will write an x86-assembly program to implement an assembly **program** using a table driven selection as a way to implement a switch statement. **Table-driven selection** is a way of using a table lookup to replace a multi-way selection structure. The selection would allow the user to input two integer numbers and either adding, subtracting, multiplying or dividing (integer division) the two numbers. Then, the program will output which operation was performed and its result. Use an **integer** to select the operation to be performed as described below:

Select the operation to performed

- 1 – addition
- 2 – subtraction
- 3 – multiplication
- 4 – division

Enter your selection:

The program will execute the following steps in the main assembly program:

- 1) You will **input two integers** from the console and store them in memory. Label the memory locations for the integers as *inputNum1* and *inputNum2*.
- 2) Output to the console a menu selection as shown above. **Input an integer** to be used in selecting the operation and store it in memory. Label the memory location for the integer as *inputSelect*.
- 3) Implement a selection using a **table-driven selection** method as discussed in class.
- 4) Implement **assembly procedures** for adding, subtracting, multiplying and dividing the two integer numbers (*inputNum1* and *inputNum2*). Store the result in another integer; label the memory location for this integer as *opResult*. Your procedures will need to output which operation they are performing.
- 5) Once the procedures return to the main program, **output the resulting integer** (*opResult*) to the console.

Implement your program; test it a number of times with different data. Your program will need to include documentation for the main program and procedures. You will need to turn in **four** test runs for your program:

- a. adding two integer numbers
- b. subtracting two integer numbers
- c. multiplying two integer numbers
- d. dividing two integer numbers

Turn in (STAPLED IN THIS ORDER)

1. The **FIRST PAGE** of this lab as a coversheet
2. The listing of **.asm source code** properly documented
3. The **four** output from the program, either pasted into .asm source code or using print screen