Lab 03

Practicing With Assembly Language

Task 1:

Compose a code in assembly language to store a 16-bit value in the accumulator register (AX) in two steps copying 8 bits of the data in each step and finally showing a complete 16-bit number in the register. (Hint: Let's say 5 is to be stored so first store the lower (LSB) 8 bits and then the higher (MSB) 8 bits. We know that AX, BX,CX and DX registers are partitioned into 2)

1. Increment the value you have stored in the register. Then copy this incremented value in the register BX. Show your results from the debugger that how the values are being manipulated.
2. Decrement the value stored in BX and see the results. Compare the value of BX and original value of AX register. Are they same or different? Explain.

Task 2:

Write instructions to perform the following operations.

a. Copy BL into CL

b. Copy DX into AX

c. Store 0x12 into AL

d. Store 0x4321 into AX

e. Store 0x00FF into AX

Hint: Store some constant value before copying it somewhere else.

Task 3:

Write a program in assembly language that calculates the square of five by adding five to the accumulator (AX). Only use ADD operation and determine how many times you need to add to get the required result.

Task 4:

For each of the following words identify the byte that is stored at lower

memory address and the byte that is stored at higher memory address in a little endian computer. Show your debugger results to support your answer

a. 1234

b. ABEF

c. B10A

d. B8C0