Lab Report

Course Code: CSE 314

Course Title: Microprocessors and Microcontrollers Lab

Experiment No: 03

Experiment Name: Write a code in assembly language that adds the number of three arrays.

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Theory: At first, I declared three array vec1, vec2, vec3.And assign their Data for vec1 {1,2,3,4}, vec2 {4,3,2,1}, vec3 {4,2,4,2}, and I declared vec4.vec4 are stored the result of three array. And I used db. db means data byte.

This start function we have 'lea' Lea means Load effective address. When I write the code lea si, vec1 here vec1 address& value go to si. then si value is vec1 address& value.

Mov instruction is used to data from source to destination it has two operands destination is written. On the left and source Is written on the right. Only value of destination is changed after executing this instruction. mov cx 4 means here we assign 4 values Here the loop will do 4 times

Sum: add this function used for array addition and source and save it.

Inc this instruction is used for incrementing an operand by one. It works on a single operand that can be either in a register or in memory.

Loop: The jmp instruction can be used for implementing loops.

Implementation Code:

org 100h

jmp start:

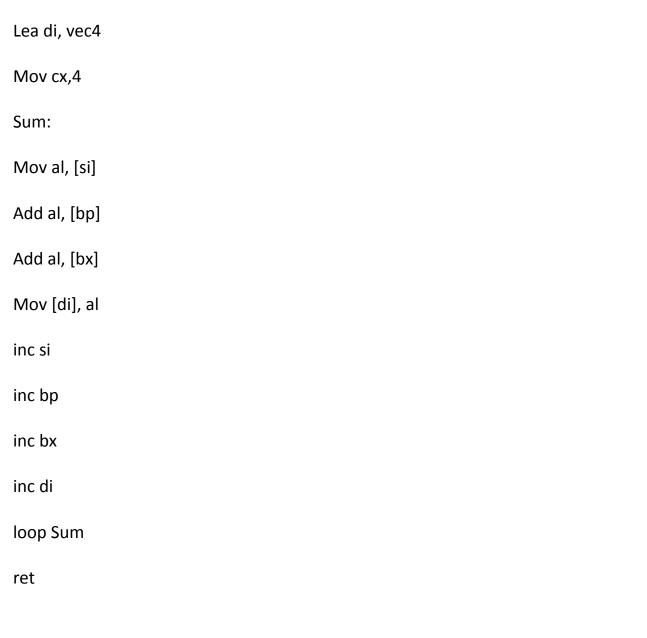vec1 db 1,2,3,4

vec2 db 4,3,2,1

vec3 db 4,2,4,2

vec4 db ?,?,?,?

start:

Lea si, vec1

Lea bp, vec2

Lea bx, vec3

```
Lea di, vec4

Mov cx,4

Sum:

Mov al, [si]

Add al, [bp]

Add al, [bx]

Mov [di], al

inc si

inc bp

inc bx

inc di

loop Sum

ret
```

Comments: I understand the procedure of the code. Then I Implement it. And I write the code in emu8086. I run the code successfully. I got the result and then check output but the output is right.