

MICROPROCESSOR LAB

EXPERIMENT 1

GAIS AMEER
S6 CSE
ROLL 33

1a) Addition of an array of 16-bit numbers

Program

```
DATA SEGMENT
    COUNT DB 04H
    ARR DW 1144H,2132H,1111H,3533H
    SUM DW ?
DATA ENDS
CODE SEGMENT
ASSUME CS:CODE,DS:DATA
START:
    MOV AX,DATA
    MOV DS,AX
    MOV BX,0000H
    MOV CL,COUNT
    LEA SI,ARR
    LOOP1:
    ADD BX,[SI]
    INC SI
    INC SI
    LOOP LOOP1
    MOV SUM,BX
    MOV AH,4CH
    INT 21H
CODE ENDS
END START
```

[illegible]

size: elements:

show as:

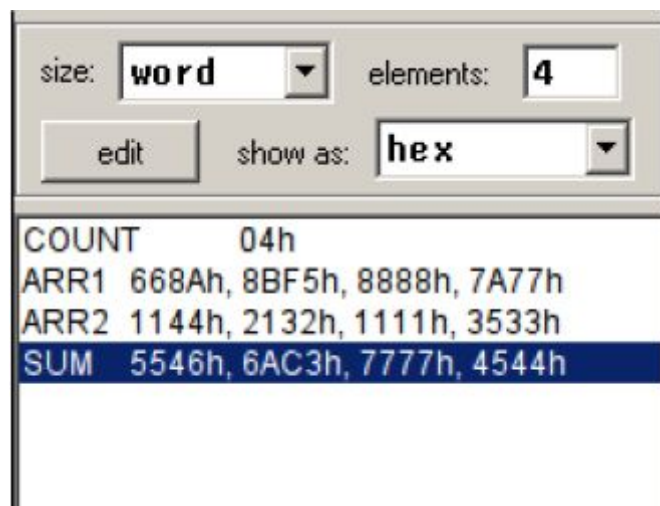
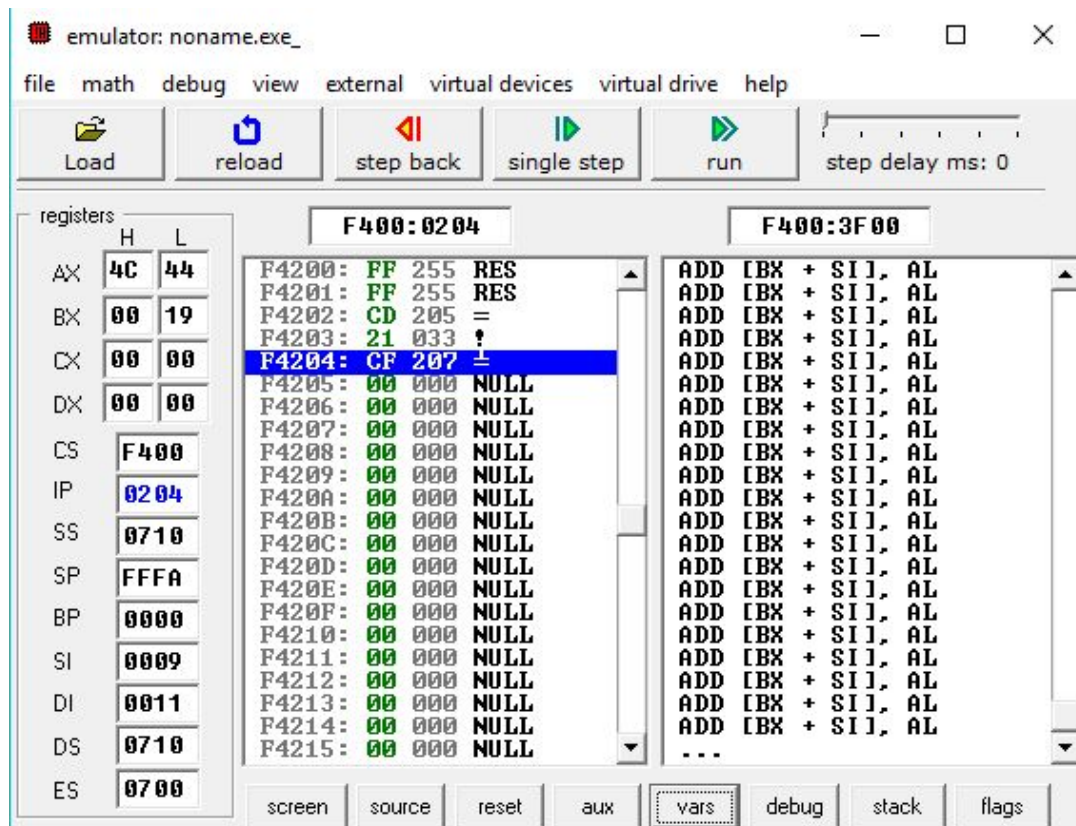
COUNT	04h
ARR	1144h, 2132h, 1111h, 3533h
SUM	78BAh

b) Subtraction of 2 array of 16-bit numbers

Program

```
DATA SEGMENT
    COUNT DB 04H
    ARR1 DW 668AH,8BF5H,8888H,7A77H
    ARR2 DW 1144H,2132H,1111H,3533H
    SUM DW ?
DATA ENDS
CODE SEGMENT
ASSUME CS:CODE,DS:DATA
START:
    MOV AX,DATA
    MOV DS,AX
    MOV BX,0000H
    MOV CL,COUNT
    LEA SI,ARR1
    LEA DI,ARR2
    LEA BX,SUM
LOOP1:
    MOV AX,[SI]
    SUB AX,[DI]
    MOV [BX],AX
    INC BX
    INC BX
    INC SI
    INC SI
    INC DI
    INC DI
    LOOP LOOP1
    MOV AH,4CH
    INT 21H
CODE ENDS
END START
```

Output



Result

Executed program for Addition/subtraction of an array of 16bit numbers in emu8086 and obtained the outputs.