



NAAC Accredited with "A" Grade (CGPA: 3.18)

A.Y. 2022-2023

Subject: Process Organization and Architecture

SAP ID: 60004220253 - Devansh Mehta

Experiment 6:

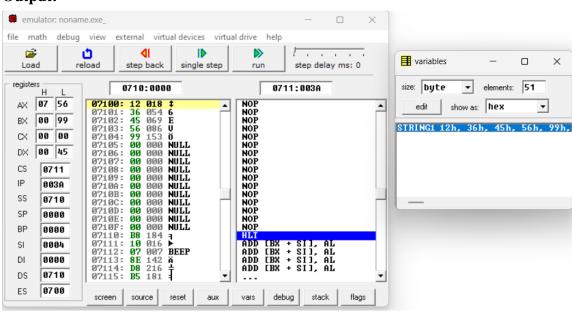
Aim: ALP to sort numbers in ascending/descending order.

Ascending Order:

Code:

```
DATA SEGMENT
    STRING1 DB 99H, 12H, 56H, 45H, 36H
02
03
    DATA ENDS
04
    CODE SEGMENT
ASSUME CS:CODE, DS:DATA
05
06
07
    START: MOU AX, DATA
08 MOU DS,AX
09
10 MOU CH, 04H
12
    UP2: MOU CL, 04H
13
    LEA SI,STRING1
14
   UP1: MOU AL [SI]
MOU BL [SI+1]
CMP AL BL
15
18
    JC DOWN
    MOU DL, [SI+1]
XCHG [SI], DL
19
20
21
22
    MOU [SI+1], DL
23
24
25
   DOWN: INC SI
DEC CL
JNZ UP1
    DEC CH
    JNZ UP2
28
    CODE ENDS
30 END START
```

Output:



NAAC Accredited with "A" Grade (CGPA: 3.18)



A.Y. 2022-2023

Subject: Process Organization and Architecture

SAP ID: 60004220253 - Devansh Mehta

Descending Order:

Code:

```
DATA SEGMENT
STRING1 DB 99H,12H,56H,45H,36H
DATA ENDS

CODE SEGMENT
ASSUME CS:CODE, DS:DATA
START: MOU AX, DATA
MOU DS, AX

MOU CH,04H

UP2: MOU CL,04H

LEA SI,STRING1

UP1:MOU AL,[SI]
MOU BL,[SI+1]
CMP AL,BL
JNC DOWN
MOU DL,[SI+1]
XCHG [SI],DL
MOU [SI+1],DL

DOWN: INC SI
DEC CL
JNZ UP1
DEC CH
JNZ UP1
DEC CH
JNZ UP2

CODE ENDS
END START
```

Output:

