A.Y. 2022-2023

PROCESSOR ORGANIZATION AND ARCHITECTURE AYUSH JAIN

COMPUTER ENGINEERING | TE - B2 | 60004200132

EXPERIMENT - 6

Aim: a) Assembly program to sort numbers in ascending order.

Code:

DATA SEGMENT STRING1 DB 99H, 12H, 56H, 45H, 36H DATA ENDS CODE SEGMENT ASSUME CS:CODE,DS:DATA START: MOV AX,DATA MOV DS,AX MOV CH,04H

UP2: MOV CL,04H LEA SI,STRING1

UP1:MOV AL,[SI] MOV BL,[SI+1] CMP AL,BL JC DOWN MOV DL,[SI+1] XCHG [SI],DL MOV [SI+1],DL

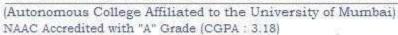
DOWN: INC SI DEC CL JNZ UP1 DEC CH JNZ UP2

CODE ENDS END START



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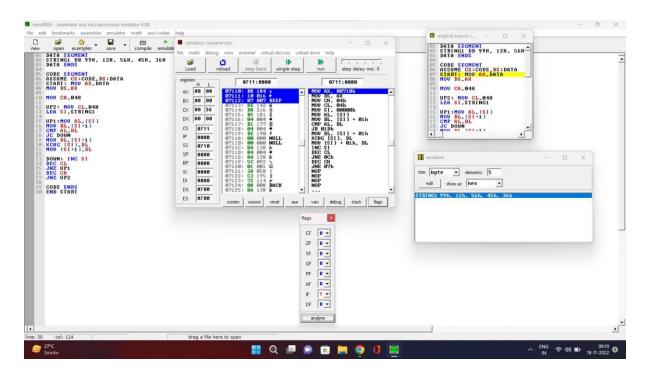
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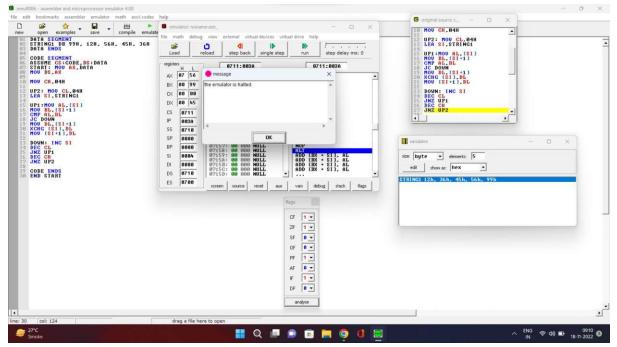




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Output:





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b) Assembly program to sort numbers in descending order

Code:

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

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

MOV CH,04H

UP2: MOV CL,04H LEA SI,STRING1

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

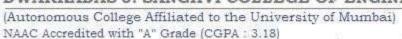
DOWN: INC SI DEC CL JNZ UP1 DEC CH JNZ UP2

CODE ENDS END START



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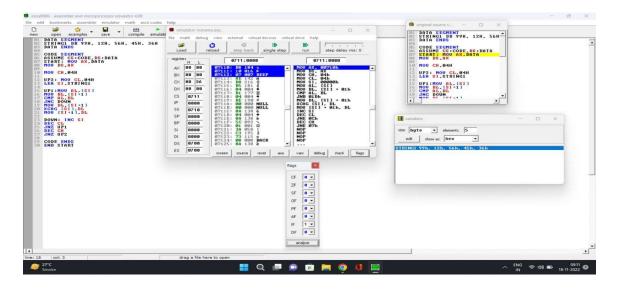
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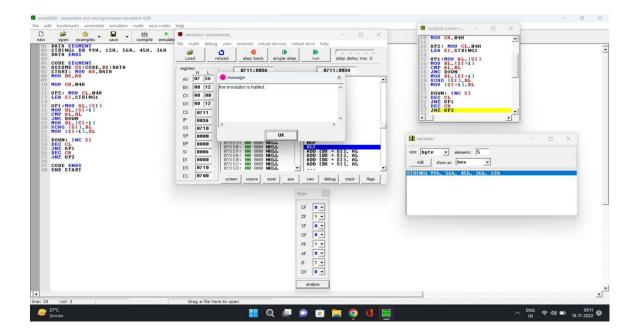




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Output:





Conclusion: To write and emulate assembly program to sort numbers in ascending/ descending order.