

PROGRAMS

1. Write an ALP to find the largest from given series of Numbers

<pre> ASSUME CS:CODE, DS:DATA DATA SEGMENT LIST DB 04H,0AH,01H,21H,09H LARG DB 0H DATA ENDS CODE SEGMENT START: MOV AX, DATA MOV DS, AX MOV AX,0H MOV CL,04 LEA SI,LIST MOV AL,[SI] L2: CMP AL,[SI+1] JNC L1 MOV AL,[SI+1] L1: INC SI DEC CL JNZ L2 MOV LARG,AL INT 03H CODE ENDS END START </pre>	<pre> -U 0745:0000 B84407 MOV AX,0744 0745:0003 8ED8 MOV DS,AX 0745:0005 B80000 MOV AX,0000 0745:0008 BE0000 MOV SI,0000 0745:000B B104 MOV CL,04 0745:000D 8A04 MOV AL,[SI] 0745:000F 3A4401 CMP AL,[SI+01] 0745:0012 7303 JAE 0017 0745:0014 8A4401 MOV AL,[SI+01] 0745:0017 46 INC SI 0745:0018 FEC9 DEC CL 0745:001A 75F3 JNZ 000F 0745:001C A20500 MOV [0005],AL 0745:001F CC INT 3 </pre> <p style="text-align: center;">Result</p> <p>Registers AX=0021 BX=0000 CX=0000</p> <p>Data Segment -D DS:0 0744:0000 04 0A 01 21 09 21</p> <p>Flag Register NU UP EI PL ZR NA PE NC</p>
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2. Write an ALP to find the smallest from given series of Numbers

ASSUME CS:CODE, DS:DATA DATA SEGMENT LIST DB 04H,0AH,01H,21H,09H SMALL DB 0H DATA ENDS CODE SEGMENT START: MOV AX, DATA MOV DS, AX MOV AX,0H MOV CL,04 LEA SI,LIST MOV AL,[SI] L2: CMP AL,[SI+1] JC L1 MOV AL,[SI+1] L1: INC SI DEC CL JNZ L2 MOV SMALL,AL INT 03H CODE ENDS END START	<pre> -U 0745:0000 B84407 MOV AX,0744 0745:0003 8ED8 MOV DS,AX 0745:0005 B80000 MOV AX,0000 0745:0008 BE0000 MOV SI,0000 0745:000B B104 MOV CL,04 0745:000D 8A04 MOV AL,[SI] 0745:000F 3A4401 CMP AL,[SI+01] 0745:0012 7203 JB 0017 0745:0014 8A4401 MOV AL,[SI+01] 0745:0017 46 INC SI 0745:0018 FEC9 DEC CL 0745:001A 75F3 JNZ 000F 0745:001C A20500 MOV [0005],AL 0745:001F CC INT 3 </pre> <p style="text-align: center;">Result</p> <p>Registers AX=0001 BX=0000 CX=0000</p> <p>Data Segment -D DS:0 0744:0000 04 0A 01 21 09 01</p> <p>Flag Register NV UP EI PL ZR NA PE CY</p>
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3. Write an ALP to sort the given series of Numbers in ascending order

ASSUME CS:CODE, DS:DATA DATA SEGMENT LIST DB 02H,22H,45H,01H,32H DATA ENDS CODE SEGMENT START: MOV AX, DATA MOV DS, AX MOV AX,0H MOV CL,04 G03: LEA SI,LIST MOV DL,04H G01: MOV AL,[SI] CMP AL,[SI+1] JC G02 XCHG AL,[SI+1] MOV [SI],AL G02: INC SI DEC DL JNZ G01 DEC CL JNZ G03 INT 03H CODE ENDS END START	<pre> -u 0745:0000 B84407 MOV AX,0744 0745:0003 8ED8 MOV DS,AX 0745:0005 B80000 MOV AX,0000 0745:0008 B104 MOV CL,04 0745:000A BE0000 MOV SI,0000 0745:000D B204 MOV DL,04 0745:000F 8A04 MOV AL,[SI] 0745:0011 3A4401 CMP AL,[SI+01] 0745:0014 7205 JB 001B 0745:0016 864401 XCHG AL,[SI+01] 0745:0019 8804 MOV [SI],AL 0745:001B 46 INC SI 0745:001C FECA DEC DL 0745:001E 75EF JNZ 000F -u 0745:0020 FEC9 DEC CL 0745:0022 75E6 JNZ 000A 0745:0024 CC INT 3 </pre> <p style="text-align: center;">Result</p> <p>Data Segment</p> <pre> -d ds:0 0744:0000 01 02 22 32 45 </pre>
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4. Write an ALP to sort the given series of Numbers in descending order

ASSUME CS:CODE, DS:DATA DATA SEGMENT LIST DB 02H,22H,45H,01H,32H DATA ENDS CODE SEGMENT START: MOV AX, DATA MOV DS, AX MOV AX,0H MOV CL,04 G03: LEA SI,LIST MOV DL,04H G01: MOV AL,[SI] CMP AL,[SI+1] JNC G02 XCHG AL,[SI+1] MOV [SI],AL G02: INC SI DEC DL JNZ G01 DEC CL JNZ G03 INT 03H CODE ENDS END START	<pre> -u 0745:0000 B84407 MOV AX,0744 0745:0003 8ED8 MOV DS,AX 0745:0005 B80000 MOV AX,0000 0745:0008 B104 MOV CL,04 0745:000A BE0000 MOV SI,0000 0745:000D B204 MOV DL,04 0745:000F 8A04 MOV AL,[SI] 0745:0011 3A4401 CMP AL,[SI+01] 0745:0014 7305 JAE 001B 0745:0016 864401 XCHG AL,[SI+01] 0745:0019 8804 MOV [SI],AL 0745:001B 46 INC SI 0745:001C FECA DEC DL 0745:001E 75EF JNZ 000F -u 0745:0020 FEC9 DEC CL 0745:0022 75E6 JNZ 000A 0745:0024 CC INT 3 </pre> <p style="text-align: center;">Result</p> <p>Data Segment</p> <pre> -d ds:0 0744:0000 45 32 22 02 01 </pre>
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