

PROGRAMS

1. Write an ALP to Display Fibonacci series

<pre> ASSUME CS:CODE, DS:DATA DATA SEGMENT COUNT DB 0AH FIB DB 10 DUP(?) DATA ENDS CODE SEGMENT START: MOV AX, DATA MOV DS, AX MOV CL,COUNT LEA SI,LIST MOV AL,0H MOV [SI],AL MOV BL,01H GO: INC SI ADD BL,AL MOV [SI],BL MOV AL,[SI-1] DEC CL JNZ GO INT 03H CODE ENDS END START </pre>	<pre> -U 0745:0000 B84407 MOV AX,0744 0745:0003 8ED8 MOV DS,AX 0745:0005 8A0E0000 MOV CL,[0000] 0745:0009 BE0100 MOV SI,0001 0745:000C B000 MOV AL,00 0745:000E 8804 MOV [SI],AL 0745:0010 B301 MOV BL,01 0745:0012 46 INC SI 0745:0013 02D8 ADD BL,AL 0745:0015 881C MOV [SI],BL 0745:0017 8A44FF MOV AL,[SI-01] 0745:001A FEC9 DEC CL 0745:001C 75F4 JNZ 0012 0745:001E CC INT 3 </pre> <p style="text-align: center;">Result</p> <p style="color: red;">Data Segment</p> <pre> -D DS:0 0744:0000 0A 00 01 01 02 03 05 08-0D 15 22 37 </pre>
---	--

2. Write an ALP to move a string of data bytes form one location to another

ASSUME CS:CODE, DS:DATA DATA SEGMENT STR1 DB 'CSE' DATA ENDS EXTRA SEGMENT STR2 DB '00H' EXTRA ENDS CODE SEGMENT START: MOV AX, DATA MOV DS, AX MOV AX, EXTRA MOV ES, AX LEA SI, STR1 LEA DI, STR2 MOV CL,03H CLD REP MOVSB INT 03H CODE ENDS END START	<pre> -u 0746:0000 B84407 MOV AX,0744 0746:0003 8ED8 MOV DS,AX 0746:0005 B84507 MOV AX,0745 0746:0008 8EC0 MOV ES,AX 0746:000A BE0000 MOV SI,0000 0746:000D BF0000 MOV DI,0000 0746:0010 B103 MOV CL,03 0746:0012 FC CLD 0746:0013 F3A4 REP MOVSB 0746:0015 CC INT 3 ----- </pre> <p style="text-align: center;">Result</p> <p>Data Segment</p> <pre> -d ds:0 0744:0000 43 53 45 00 00 00 00 00-00 00 00 00 00 00 00 00 CSE.. </pre> <p>Extra Segment</p> <pre> -d es:0 0745:0000 43 53 45 00 00 00 00 00-00 00 00 00 00 00 00 00 CSE. </pre>
---	--

3. Write an ALP to concatenate two strings

ASSUME CS:CODE, DS:DATA DATA SEGMENT STR1 DB 'CSE' STR2 DB 'SNIST' STR3 DB 00H DATA ENDS CODE SEGMENT START: MOV AX,DATA MOV DS,AX MOV AX,0H MOV CL,08H LEA SI,STR1 LEA DI,STR3 GO: MOV AL,[SI] MOV [DI],AL INC SI INC DI DEC CL JNZ GO 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 B108 MOV CL,08 0745:000A BE0000 MOV SI,0000 0745:000D BF0800 MOV DI,0008 0745:0010 8A04 MOV AL,[SI] 0745:0012 8805 MOV [DI],AL 0745:0014 46 INC SI 0745:0015 47 INC DI 0745:0016 FEC9 DEC CL 0745:0018 75F6 JNZ 0010 0745:001A CC INT 3 </pre> <p style="text-align: center;">Result</p> <p>Data Segment</p> <pre> └─d ds:0 0744:0000 63 73 65 73 6E 69 73 74-63 73 65 73 6E 69 73 74 csesnistcsenist </pre>
---	---

4. Write an ALP to reverse a given string

ASSUME CS:CODE, DS:DATA, DATA SEGMENT STR1 DB 'CSE' DATA ENDS CODE SEGMENT START: MOV AX, DATA MOV DS, AX MOV AX,0H MOV CL,03H LEA SI,STR1 LEA DI,STR+6 GO: MOV AL,[SI] MOV [DI],AL INC SI DEC DI DEC CL JNZ GO 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 B103 MOV CL,03 0745:000A BE0000 MOV SI,0000 0745:000D BF0600 MOV DI,0006 0745:0010 8A04 MOV AL,[SI] 0745:0012 8805 MOV [DI],AL 0745:0014 46 INC SI 0745:0015 4F DEC DI 0745:0016 FEC9 DEC CL 0745:0018 75F6 JNZ 0010 0745:001A CC INT 3 </pre> <p style="text-align: center;">Result</p> <p>Data Segment</p> <pre> -d ds:0 0744:0000 43 53 45 00 45 53 43 00-00 00 00 00 00 00 00 00 CSE.ESC. </pre>
--	---