BIM303 MICROCOMPUTERS
LAB EXPERIMENT #6

Objective(s)

- Become familiar with **program control instructions**.

Lab Work

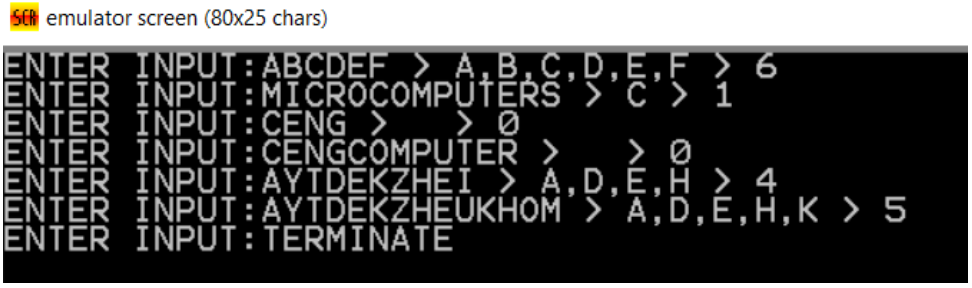
Write an assembly program that can get a text input and find the characters that the indices in the given text and alphabet match. (You must use **the English** alphabet). The program must be able to run infinitely until the user enters "**TERMINATE**" as input. For example, for the given text "AYTDEKZHEUKHOM", the result is "A, D, E, H, K > 5":

Indexes	Letters
1	A
2	B
3	C
4	D
5	E
6	F
7	G
8	H
9	I
10	J
11	K
12	L
13	M
14	N
15	O
16	P
17	Q
18	R
19	S
20	T
21	U
22	V
23	W
24	X
25	Y
26	Z

'A' → index in text:1, index in alphabet:1 → match
'Y' → index in text:2, index in alphabet:25 → no match
'T' → index in text:3, index in alphabet:20 → no match
'D' → index in text:4, index in alphabet:4 → match
'E' → index in text:5, index in alphabet:5 → match
'K' → index in text:6, index in alphabet:11 → no match
'Z' → index in text:7, index in alphabet:26 → no match
'H' → index in text:8, index in alphabet:8 → match
'E' → index in text:9, index in alphabet:5 → no match
'U' → index in text:10, index in alphabet:21 → no match
'K' → index in text:11, index in alphabet:11 → match
'H' → index in text:12, index in alphabet:8 → no match
'O' → index in text:13, index in alphabet:15 → no match
'M' → index in text:14, index in alphabet:13 → no match

1. Get a text as an input using Emulator Screen. The program must only accept capital letters. The program must check whether the entered character is a capital letter and if it is not, it can be neither processed nor printed. For example, if the user enters "C1E?+N:*+G" then the program must not print '1', '?', '+', ':', '*' and print only "CENG". When the Enter key is pressed, the program must get the printed text as input and start processing.
2. When the program gets the input from the user, it must check each character if the required match occurs and store the matched characters.
3. Finally, the program prints the matched characters and the count of matched characters on the Emulator Screen and waits for the new text until the new text is "TERMINATE".

Example:



Demo Code: Get input as a string from the user:

```
org 100h

MOV DI,0
MOV CX,0
MOV DX, OFFSET MSG
MOV AH,9
INT 21H

GETWORD:
   MOV AH,00
   INT 16H
   CMP AL,0DH
   JE PRINT
   MOV AH,0EH
   INT 10H
   MOV ARR[DI],AL
   INC DI
   INC CX
JMP GETWORD
```

```
PRINT:
   MOV DX, OFFSET MSGPRINT
   MOV AH,9
   INT 21H
   MOV DI,0
LOOP1:
   MOV AL, ARR[DI]
   MOV AH,0EH
   INT 10H
   MOV AL, ' '
   MOV AH,0EH
   INT 10H
   INC DI
Loop LOOP1:
ret

ARR DB 26 DUP(0)
MSG DB "ENTER INPUT:$"
MSGPRINT DB " > $"
NEWLINE DB 13,10,"$"
```

Evaluation You must complete your work until lab hour. You will be evaluated during the lab session.
NOTE: Students who do not submit tasks through ESTUOYS will have their points **degraded**. Late submissions will not be accepted.