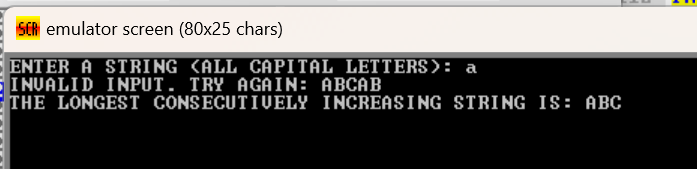
**Problem statement:**

Input a string and print longest consecutive subsequence.

**Code:**

|  |
| --- |
| .MODEL **SMALL**  .**STACK** 100H    **.DATA**  PROMPT\_1 **DB** 'ENTER A STRING (ALL CAPITAL LETTERS): $'  PROMPT\_2 **DB** 0DH,0AH,'THE LONGEST CONSECUTIVELY INCREASING STRING IS : $'  INVALID **DB** 0DH,0AH,'INVALID INPUT. TRY AGAIN : $'    .**CODE**  MAIN PROC  **MOV** **AX**, @**DATA**  *; INITIALIZE DS*  **MOV** **DS**, **AX**    **LEA** **DX**, PROMPT\_1  *; LOAD AND DISPLAY THE STRING PROMPT\_1*  **MOV** **AH**, 9  **INT** 21H    **JMP** @**START**    @TRY\_AGAIN: *; JUMP LABEL*    **LEA** **DX**, INVALID *; LOAD AND DISPLAY THE STRING INVALID*  **MOV** **AH**, 9  **INT** 21H    @**START**: *; JUMP LABEL*    **MOV** **AH**, 1  **INT** 21H *; READ A CHARACTER*    **CMP** **AL**, 0DH *; COMPARE AL WITH CARRIAGE RETURN*  **JE** @TRY\_AGAIN *; JUMP TO LABEL @TRY\_AGAIN IF AL=CR*    **CMP** **AL**, 41H *; COMPARE AL WITH 41H ('A')*  **JB** @TRY\_AGAIN *; JUMP TO LABEL @TRY\_AGAIN IF AL<41H*    **CMP** **AL**, 5AH *; COMAPRE AL WITH 5AH ('Z')*  **JA** @TRY\_AGAIN *; JUMP TO LABEL @TRY\_AGAIN IF AL>5AH*    **MOV** **BL**, **AL***;BL=AL ->*  **MOV** **BH**, **AL***;BH=AL*  **MOV** **DH**, **AL***;DH=AL*  **MOV** **DL**, 1 *;DL=1 ->MAX SUBSTRING*  **MOV** **CL**, 1 *;CL=1 ->CURRENT MAX SUBSTRING*    @INPUT: *; LOOP LABEL*  **INT** 21H *; READ A CHARACTER*    **CMP** **AL**, 0DH *; COMPARE AL WITH CR*  **JE** @END\_INPUT *; JUMP TO LABEL @END\_INPUT IF AL=CR*    **CMP** **AL**, 41H *; COMPARE AL WITH 41H*  **JB** @TRY\_AGAIN *; JUMP TO LABEL @TRY\_AGAIN IF AL<41H*    **CMP** **AL**, 5AH *; COMAPRE AL WITH 5AH*  **JA** @TRY\_AGAIN *; JUMP TO LABEL @TRY\_AGAIN IF AL>5AH*    **INC** **BL** *; SET BL=BL+1*    **CMP** **AL**, **BL** *; COMPARE AL WITH BL*  **JNE** @CHECK\_AND\_REPLACE *; JUMP TO LABEL @CHECK\_AND\_REPLACE IF AL!=BL*    **INC** **CL** *; SET CL=CL+1*  **JMP** @INPUT *; JUMP TO LABEL @INPUT*    @CHECK\_AND\_REPLACE: *; JUMP LABEL*    **CMP** **CL**, **DL** *; COMPARE CL WITH DL*  **JLE** @SKIP\_UPDATION\_1 *; JUMP TO LABEL @SKIP\_UPDATION\_1 IF CL<=DL*    **MOV** **DH**, **BH** *; SET DH=BH*  **MOV** **DL**, **CL** *; SET DL=CL*    @SKIP\_UPDATION\_1: *; JUMP LABEL*    **MOV** **BH**, **AL** *; SET BH=AL*  **MOV** **BL**, **AL** *; SET BL=AL*  **MOV** **CL**, 1 *; SET CL=1*  **JMP** @INPUT *; JUMP TO LABEL @INPUT*    @END\_INPUT: *; JUMP LABEL*    **CMP** **CL**, **DL** *; COMPARE CL WITH DL*  **JLE** @SKIP\_UPDATION\_2 *; JUMP TO LABEL @SKIP\_UPDATION\_2 IF CL<=DL*    **MOV** **DH**, **BH** *; SET DH=BH*  **MOV** **DL**, **CL** *; SET DL=CL*    @SKIP\_UPDATION\_2: *; JUMP LABEL*    **MOV** **BX**, **DX** *; SET BX=DX*    **LEA** **DX**, PROMPT\_2 *; LOAD AND DISPLAY THE STRING PROMPT\_2*  **MOV** **AH**, 9  **INT** 21H    **XOR** **CX**, **CX** *; CLEAR CX*  **MOV** **CL**, **BL** *; SET CL=BL*    **MOV** **DL**, **BH** *; SET DL=BH*  **MOV** **AH**, 2 *; SET OUTPUT FUNCTION*    @OUTPUT: *; LOOP LABEL*  **INT** 21H *; PRINT A CHARACTER*  **INC** **DL** *; SET DL=DL+1*  **LOOP** @OUTPUT *; JUMP TO LABEL @OUTPUT IF CX!=0*    EXIT:  **MOV** **AH**, 4CH *; RETURN CONTROL TO DOS*  **INT** 21H  MAIN ENDP  END MAIN |

**Output:**

****