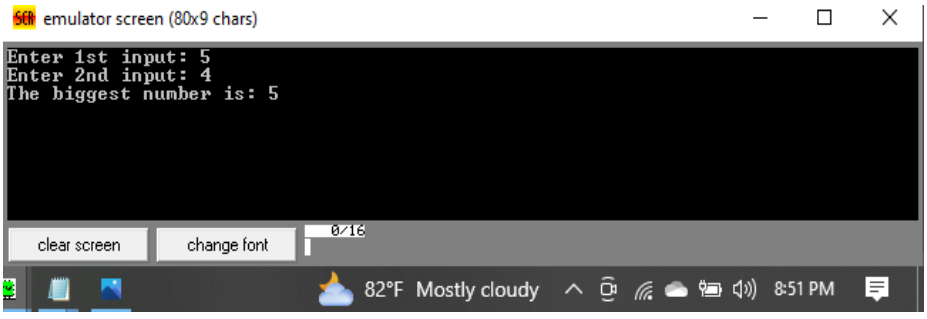
Problem 01:

Suppose AX and BX contain signed numbers.write some code to put the biggest one in CX.

```
org 100h
.data
input1 db 'Enter 1st input: $'
input2 db 'Enter 2nd input: $'
nwline db 10,13, '$'
output db 'The biggest number is: $'

.code
main proc
lea dx,input1
   mov ah,09h
   int 21h

   mov ah,01h
   int 21h
   mov cx,ax;taking 1st input
   int 21h
   lea dx,nwline
   mov ah,09h
   int 21h
   ;load the another msg
   lea dx,input2
   mov ah,09h
   int 21h
   mov ah,01   ;taking the another input
   mov bx,ax
   int 21h
   lea dx,nwline
   mov ah,09h
   int 21h
   ;comparing
   cmp bx,cx
   jle next
   mov cx,bx
   next:
   lea dx,output
   mov ah,09h
   int 21h

   mov dx,cx
   mov ah,02h
   int 21h
   main endp
end main
ret
```

Output



Problem 02: Replace the number in AX by its absolute value.

Program:

```
org 100h
.data

output db 'absolute value is: $'
input dw -4
.code
main proc
    mov ax,input
    cmp ax,0
    jge pos
    neg ax
    pos:
    add ax,48
    mov input,ax
    lea dx,output
    mov ah,09h
    int 21h
    mov ah,02h
    ;int 21h
    mov dx,input
    int 21h
    main endp
end main
```

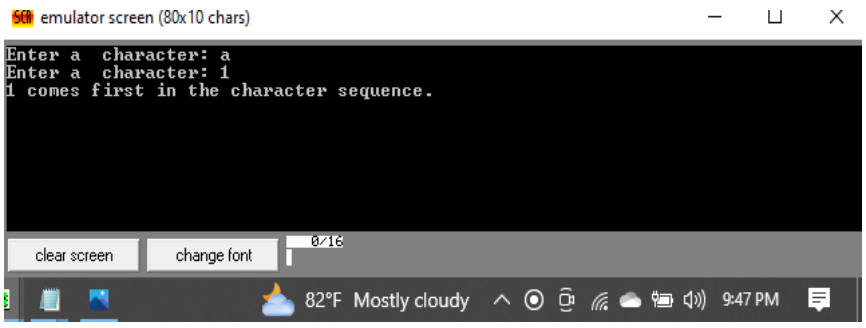
Output :

Problem 03: Suppose AL and BL contain extended ASCII characters.Display the one that comes first in the character sequence

Program:

```
org 100h
.data
m1 db 'Enter a  character: $'
m2 db ' comes first in the character sequence.$'
nwline db 10,13, '$'
.code
main proc

   lea dx,m1
   mov ah,09h
   int 21h

   mov ah,01h
   int 21h
   mov bl,al
   int 21h

   mov ah,02
   lea dx,nwline
   mov ah,09h
   int 21h

   lea dx,m1
   mov ah,09h
   int 21h

   mov ah,01h
   int 21h
   mov cl,al
   int 21h

   cmp bl,cl
   jnge first
   mov bl,cl
   first:
   lea dx,nwline
   mov ah,09h
   int 21h
   mov ah,02h

   mov dl,bl
   int 21h
   lea dx,m2
   mov ah,09h
   int 21h
   main endp
end main
```

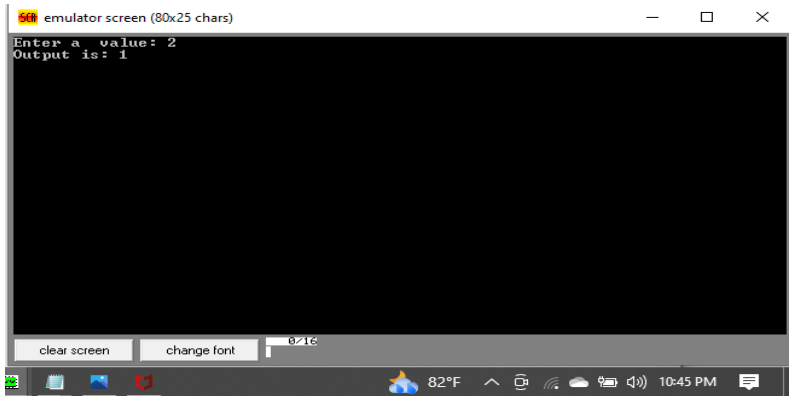
Output:



Problem 04: If AX contains a negative number ,put -1 in BX; if AX contains 0,put 0 in BX ;if AX contains a positive number,put 1 in BX.

Program:

```
org 100h
.data
m1 db 'Enter a  value: $'
m2 db 'Output is: $'
nwline db 10,13, '$'
.code
main proc
   lea dx,m1
   mov ah,09h
   int 21h
   mov ah,01h
   int 21h
   mov cx,ax
   cmp cx,"0"
   jl negetive
   je zero
   jg positive
   negetive:
   lea dx,nwline
   mov ah,09h

   mov bl,"-"
   mov bh,"1"
   mov ah,02h
   int 21h
   mov dx,bx
   mov ah,02h
   int 21h
   jmp end_case
   zero:
   lea dx,nwline
   mov ah,09h

   mov dl,"0"
   mov ah,02h
   int 21h
   jmp end_case

   positive:
   lea dx,nwline
   mov ah,09h
   int 21h
   lea dx,m2
   mov ah,09h
   int 21h
   mov dl,"1"
   mov ah,02h
   int 21h
   jmp end_case
   end_case:
   main endp
end main
ret
```

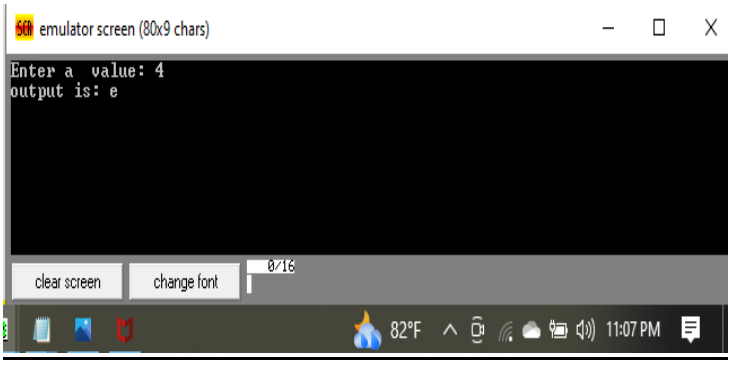


Problem 05: If AL contains 1 or 3,display “o”;if AL contains 2 or 4 display “e”.

Program:

```
org 100h
.data
m1 db 'Enter a  value: $'
m2 db 'output is: $'

nwline db 10,13, '$'

.code
main proc

    lea dx,m1
    mov ah,09h
    int 21h

    mov ah,1
    mov bl,al
    int 21h

    cmp bl,2
    je even
    ;mov dl,"o"
    cmp bl,4
    je even
    cmp bl,1
    je odd
    cmp bl,3
    je odd

    even:
    lea dx,nwline
    mov ah,09h
    int 21h
    lea dx,m2
    mov ah,09h
    int 21h
    mov dl,"e"
    mov ah,02
    int 21h
    jmp display
    odd:
    lea dx,nwline
    mov ah,09h
    int 21h
    lea dx,m2
    mov ah,09h
    int 21h
   mov dl,"o"
    mov ah,02
    int 21h
    jmp display

display:
   main endp
end main
```

Output:

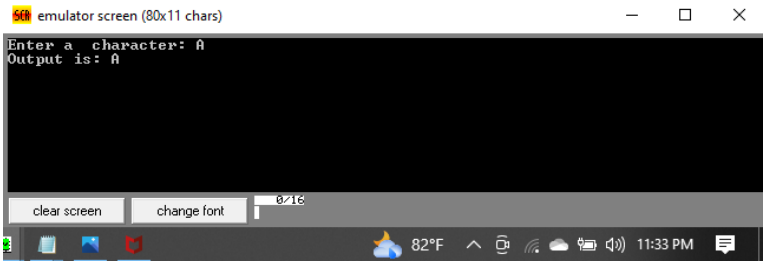


Problem 06: Read a character , and if it's an uppercase letter, display it.

Program:

```
org 100h
.data
m1 db 'Enter a  character: $'
m2 db 'Output is: $'

nwline db 10,13, '$'

.code
main proc

    lea dx,m1
    mov ah,09h
    int 21h

    mov ah,1


    int 21h
    mov bl,al

    cmp al,'Z'
    jle upper
    mov ah,4ch
    int 21h

    upper:

    lea dx,nwline
    mov ah,09h
    int 21h

    lea dx,m2
    mov ah,09h
    int 21h
    mov ah,2
    mov dl,bl
    int 21h

    main endp
end main
```

Output:

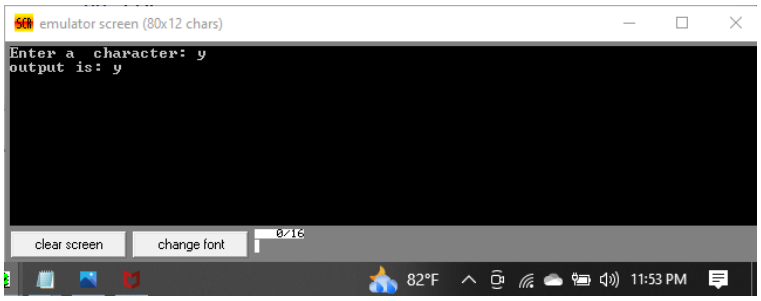


Problem 07: Read a character .If it's "Y" or "y" , display it; otherwise terminate the program.

Program:

```
org 100h
.data
m1 db 'Enter a  character: $'
m2 db 'output is: $'

m3 db 'terminated $'

nwline db 10,13, '$'

.code
main proc


    lea dx,m1
    mov ah,09h
    int 21h

    mov ah,1
    int 21h
    mov bl,al

    cmp bl,'Y'
    je oyai
    cmp bl,'y'
    je oyai
       lea dx,nwline
       mov ah,09h
       int 21h
       lea dx,m2
       mov ah,09h
       int 21h

       mov ah,4ch
       int 21h

oyai:
       lea dx,nwline
       mov ah,09h
       int 21h
       lea dx,m2
       mov ah,09h
       int 21h
       mov ah,2
       ;int 21h
       mov dl,bl
       int 21h

   main endp
end main
```

Output:

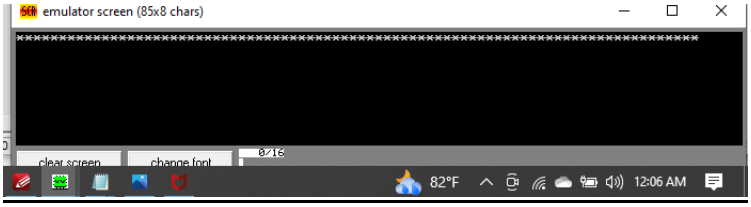


Problem 08: Write a count-controlled loop to display a row of 80 stars.

Program:

```
org 100h

.data

m1 db 'Enter a  character: $'

m2 db ' comes first in the character sequence.$'


nwline db 10,13, '$'


.code

main proc

      mov cx,80

      mov ah,2

      mov dl,'*'


  top:

      int 21h

      loop top



   main endp

end main
```

Output:

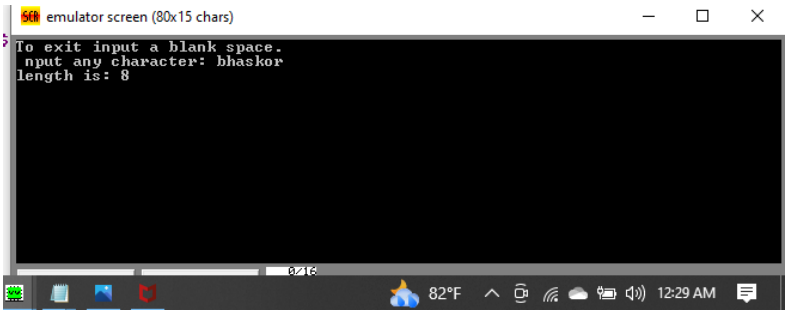


Program 09: Write some code to count the number of chara ters In; n input line.

Program:

```
org 100h
.data
ms db "To exit input a blank space.",10,13,"Input any character: $"
.code
count dw '0'
nwline db 10,13, '$'
ms2 db 'length is: $'

main proc
   lea dx,ms
   mov ah,09h
   int 21h

   while:
   mov ah,01h
   int 21h
   cmp al," "
   je exit

   add count,1

   jmp while

   exit:

   lea dx,nwline

   mov ah,09h
   int 21h

   lea dx,ms2
   mov ah,09h
   int 21h

   mov ah,2
   ;int 21h
   mov dx,count
   int 21h

   main endp
end main
ret
```

Output:



Problem 10: Write some code to read characters until a blank is read.

Program:

```
org 100h
.data
ms db "To exit input a blank space.",10,13,"Input any character: $"
.code
main proc
    lea dx,ms
    mov ah,09h
    int 21h

    while:
    mov ah,01h
    int 21h
    cmp al," "
    je exit
    jmp while
    exit:

    main endp
end main
ret
```

Output: