Example 6.1 Suppose AX and BX contain signed numbers. Write some code to put the biggest one in CX.

```
.MODEL SMALL
.STACK 100H
.CODE
MAIN PROC
        MOV AH,1
        INT 21H

        MOV BX,AX
        INT 21H
        MOV CX,AX

        CMP BX,CX
        JLE PRINT    ;if BX<=CX

        ;if BX>CX
        MOV CX,BX

        PRINT:
        MOV AH,2
        MOV DX,CX
        INT 21H

        EXIT:
        MOV AH,4CH
        INT 21H
MAIN ENDP
        END MAIN
```

Example 6.2 Replace the number in AX by its absolute value.

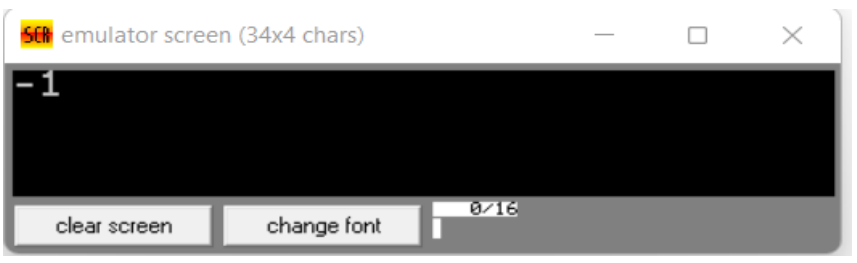
```
.MODEL SMALL
.STACK 100H
.CODE
MAIN PROC

        MOV AX,-6

        CMP AX,0
        JGE PRINT

        NEG AX

        PRINT:
        MOV AH,2
        ADD AX,30H
        MOV DX,AX
        INT 21H

        EXIT:
        MOV AH,4CH
        INT 21H
MAIN ENDP
        END MAIN
```

Example 6.3 Suppose AL and BL contain extended ASCII characters. Display the one that comes first in the character sequence.

```
.MODEL SMALL
.STACK 100H
.CODE
MAIN PROC

        MOV AH,1
        INT 21H
        MOV BL,AL
        INT 21H
        MOV AH,2    ;prepare to display
        CMP AL,BL
        JNBE ELSE_    ;if AL>BL

        MOV DL,AL
        JMP PRINT    ;jump to print

        ELSE_:
        MOV DL,BL
        PRINT:
        INT 21H    ;execute display

        EXIT:
        MOV AH,4CH
        INT 21H
MAIN ENDP
        END MAIN
```

Example 6.4 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.

```
.MODEL SMALL
.STACK 100H
.CODE
MAIN PROC
        MOV AX,-6

        CMP AX,0
        JL NEGATIVE  ;if AX<0
        JE ZERO      ;if AX=0
        JG POSITIVE  ;if AX>0

    NEGATIVE:
          MOV AH,2
          MOV DX,'-'
          INT 21H
          MOV BX,1
          JMP END_CASE
    ZERO:
          MOV BX,0
          JMP END_CASE
    POSITIVE:
          MOV BX,1

    END_CASE:
          MOV AH,2
          ADD BX,30H
          MOV DX,BX
          INT 21H

          MOV AH,4CH
          INT 21H
MAIN ENDP
          END MAIN
```



Example 6.5 If AL contains I or 3, display "o"; if AL contains 2 or 4, display "e".

```
.MODEL SMALL
.STACK 100H
.CODE
MAIN PROC
        MOV AH,1
        INT 21H

        MOV AH,2

        CMP AL,'1'
        JE ODD
        CMP AL,'3'
        JE ODD

        CMP AL,'2'
        JE EVEN
        CMP AL,'4'
        JE EVEN

        ODD:
        MOV DL,'o'
        JMP DISPLAY

        EVEN:
        MOV DL,'e'
        JMP DISPLAY

        DISPLAY:
        INT 21H

        EXIT:
        MOV AH,4CH
        INT 21H
MAIN ENDP
        END MAIN
```

Example 6.5

Example 6.6 Read a character, and if it's an uppercase letter, display it.

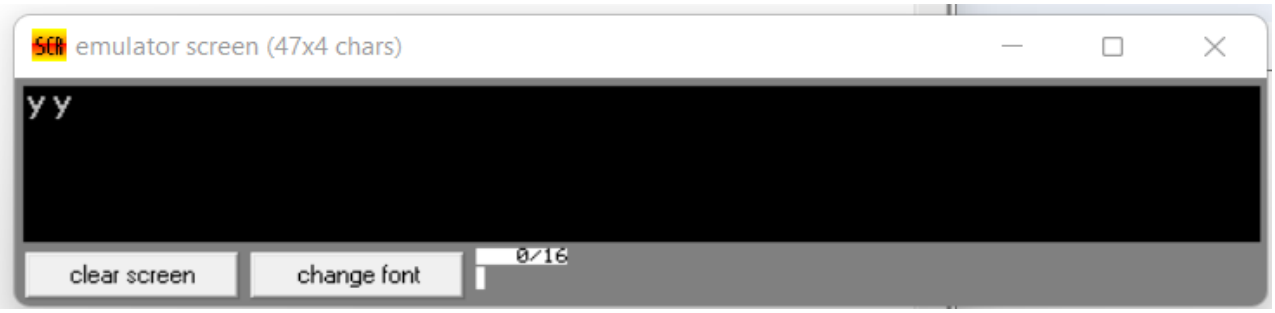
```
.MODEL SMALL
.STACK 100H
.CODE
MAIN PROC

        MOV AH,1
        INT 21H

        CMP AL,'A'
        JL EXIT
        CMP AL,'Z'
        JG EXIT

        MOV AH,2
        MOV DL,AL
        INT 21H

        EXIT:
        MOV AH,4CH
        INT 21H
MAIN ENDP
        END MAIN
```

Example 6.6

Example 6.7 Read a character. If it's "y" or "Y", display it; otherwise, terminate the program.

```
.MODEL SMALL
.STACK 100H
.CODE
MAIN PROC

        MOV AH,1
        INT 21H

        CMP AL,'Y'
        JE PRINT
        CMP AL,'y'
        JE PRINT
        JMP EXIT

        PRINT:
        MOV AH,2
        MOV DL,AL
        INT 21H

        EXIT:
        MOV AH,4CH
        INT 21H
MAIN ENDP
        END MAIN
```

Example 6.7



Example 6.8 Write a count-controlled loop to display a row of 80 stars.

```
.MODEL SMALL
.STACK 100H
.CODE
MAIN PROC
        MOV CX,80
        MOV AH,2
        MOV DL,'*'

        TOP:
        INT 21H
        LOOP TOP

        EXIT:
        MOV AH,4CH
        INT 21H
MAIN ENDP
        END MAIN
```

Example 6.8

Example 6.9 Write some code to count the number of characters in the input line.

```
.MODEL SMALL
.STACK 100H
.CODE
MAIN PROC

        MOV CL,0

        MOV AH,1
        INT 21H

        WHILE_LOOP:
            CMP AL,0DH
            JE END_WHILE
            INC CL
            INT 21H
            JMP WHILE_LOOP

        END_WHILE:
        MOV AH,2
        MOV DL,0AH
        INT 21H
        ADD CL,30H
        MOV DL,CL
        INT 21H

        MOV AH,4CH
        INT 21H
MAIN ENDP
        END MAIN
```

Example 6.10 Write some code to read characters until a blank is read.

```
.MODEL SMALL
.STACK 100H
.CODE
MAIN PROC

        MOV AH,1

        REPEAT:
        INT 21H

        CMP AL,' '
        JNE REPEAT

        EXIT:
        MOV AH,4CH
        INT 21H


MAIN ENDP
        END MAIN
```

Example 6.10