COA-Lab-10(AP22110011637)

1. (a) Write a program in assembly language to print the numbers from 0 to 9.

Code:

```
ORG 100h        ; Set origin for COM file format

MOV CX, 10      ; Set loop counter to 10 (for characters '0' to '9')
MOV AL, '0'     ; Initialize AL with ASCII code for '0'

PrintLoop:
    MOV DL, AL    ; Move the current character in AL to DL (for printing)
    MOV AH, 02h   ; Set up DOS interrupt function to print a character
    INT 21h       ; Call DOS interrupt to print character in DL

    INC AL        ; Increment AL to get the next ASCII character ('1', '2', etc.)
    LOOP PrintLoop   ; Repeat until CX reaches 0

MOV AH, 4Ch     ; Set up DOS interrupt function to exit program
INT 21h         ; Call DOS interrupt to exit program
```
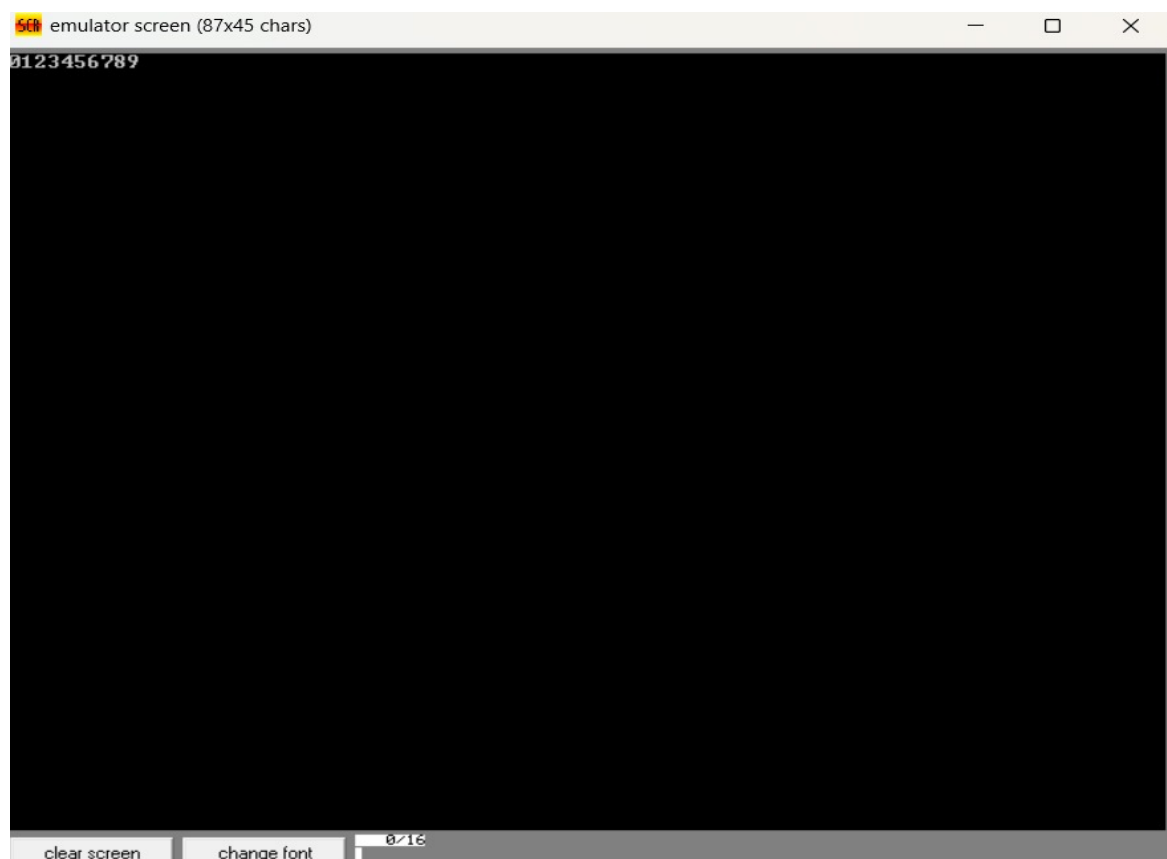
Output :
The output of this code to print 0 to 9

(b) Write an assembly language program to print the characters from A to Z in reverse order.
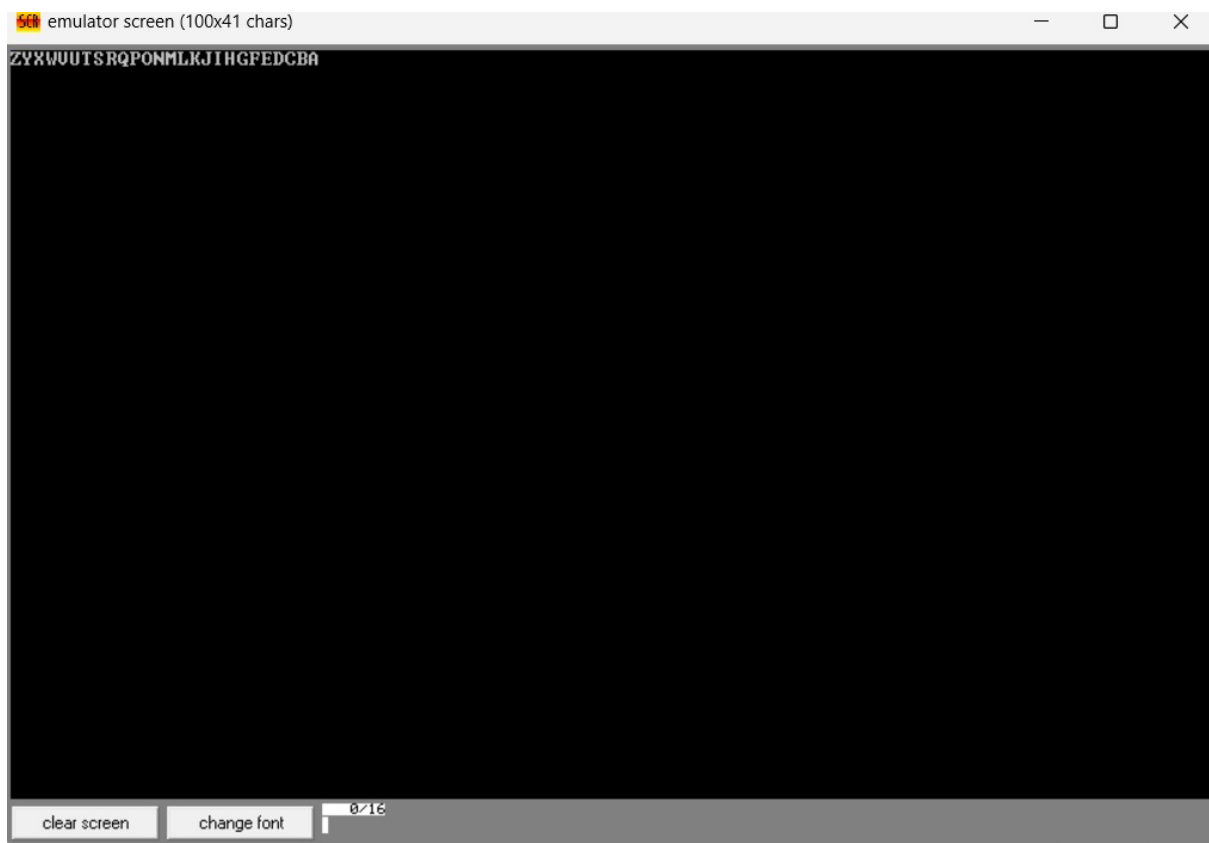
Code:

```
ORG 100h            ; Set origin for COM file f
    MOV DL, AL      ; Move the current character to DL (for printing)
    MOV AH, 02h     ; DOS interrupt function to print a character
    INT 21h         ; Call DOS interrupt
    DEC AL          ; Decrement AL to get the previous ASCII character ('Y', 'X', etc.)
    LOOP PrintLoop  ; Repeat until CX reaches 0

MOV AH, 4Ch         ; DOS interrupt function to exit program
INT 21h             ; Call DOS interrupt to exit
```

Ouput:
 The output of this code to print the character from A to Z reverse order

2. (a) Write a program in assembly language to print the numbers from 0 to 9 in reverse order.

Code:

```
ORG 100h        ; Set origin for COM file format

MOV CX, 10      ; Set loop counter to 10 (for characters '9' to '0')
```

```
MOV AL, '9'      ; Initialize AL with ASCII code for '9'

PrintLoop:
   MOV DL, AL    ; Move the current character to DL (for printing)
   MOV AH, 02h   ; DOS interrupt function to print a character
   INT 21h       ; Call DOS interrupt

   DEC AL        ; Decrement AL to get the previous ASCII character
   LOOP PrintLoop   ; Repeat until CX reaches 0

MOV AH, 4Ch      ; DOS interrupt function to exit program
INT 21h          ; Call DOS interrupt to exit
```
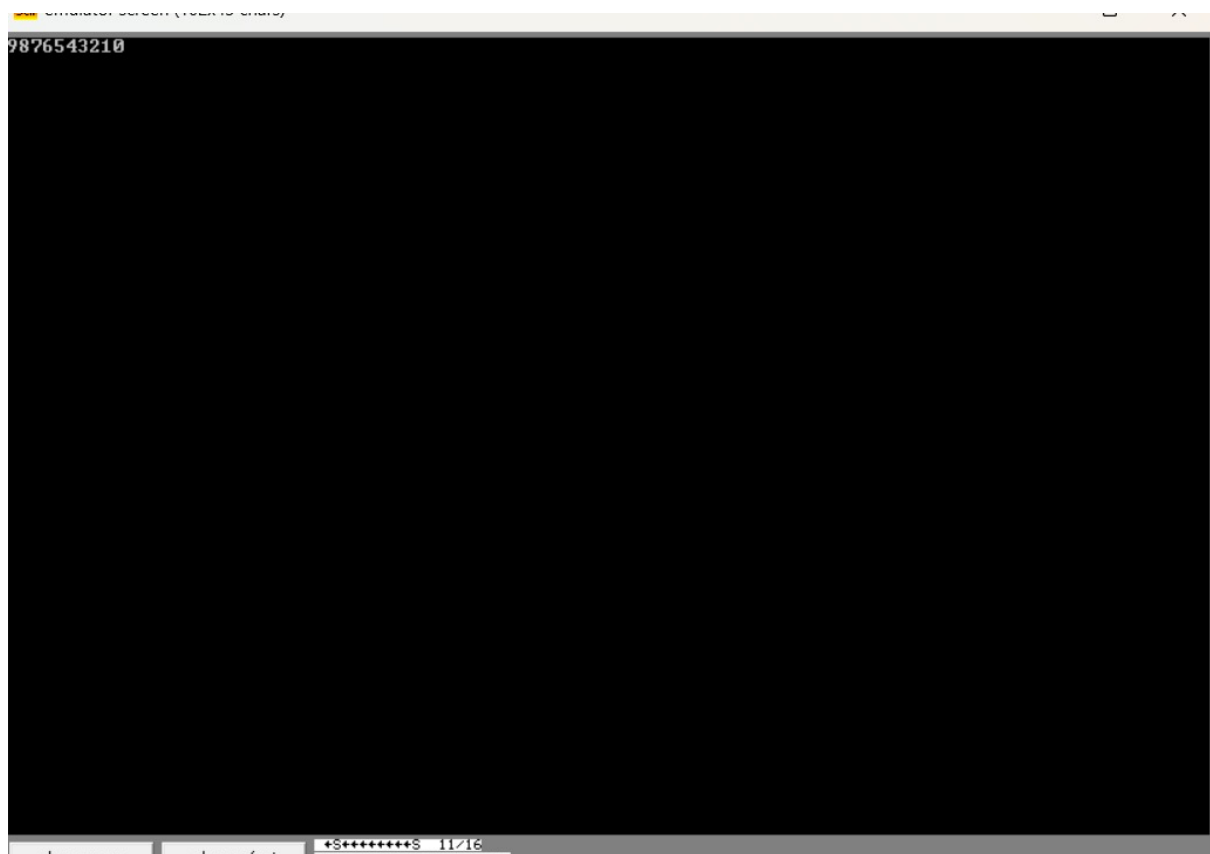
Output:
The output of this number from 0 to 9 in reverse order

(b) Write an assembly language program to print the characters from A to Z.

Code:
```
ORG 100h         ; Set origin for COM file format

MOV CX, 26       ; Set loop counter to 26 (for letters 'Z' to 'A')
MOV AL, 'A'      ; Initialize AL with ASCII code for 'Z'
```

```
PrintLoop:
    MOV DL, AL    ; Move the current character to DL (for printing)
    MOV AH, 02h   ; DOS interrupt function to print a character
    INT 21h       ; Call DOS interrupt

    inc AL        ; Decrement AL to get the previous ASCII character ('Y', 'X', etc.)
    LOOP PrintLoop  ; Repeat until CX reaches 0

MOV AH, 4Ch       ; DOS interrupt function to exit program
INT 21h           ; Call DOS interrupt to exit
```

Output:
The output of this code to print the character from A to Z