

A dark blue vertical bar on the left side of the page. A blue arrow points to the right from the bar, containing the date.

4/17/2025

Lab: 08

COAL LAB

Name: Ayesha Tayyaba

SAPID: 56546

Several thin, curved lines in dark blue and light grey originate from the bottom left and sweep upwards and to the right.

RIPHAH INTERNATIONAL UNIVERSITY

TASK: 01

Code:

.model small

.stack 100h

.data

msg db '1 3 5 7 9\$'

.code

main:

mov ax, @data

mov ds, ax

; print the message

lea dx, msg

mov ah, 09h

int 21h

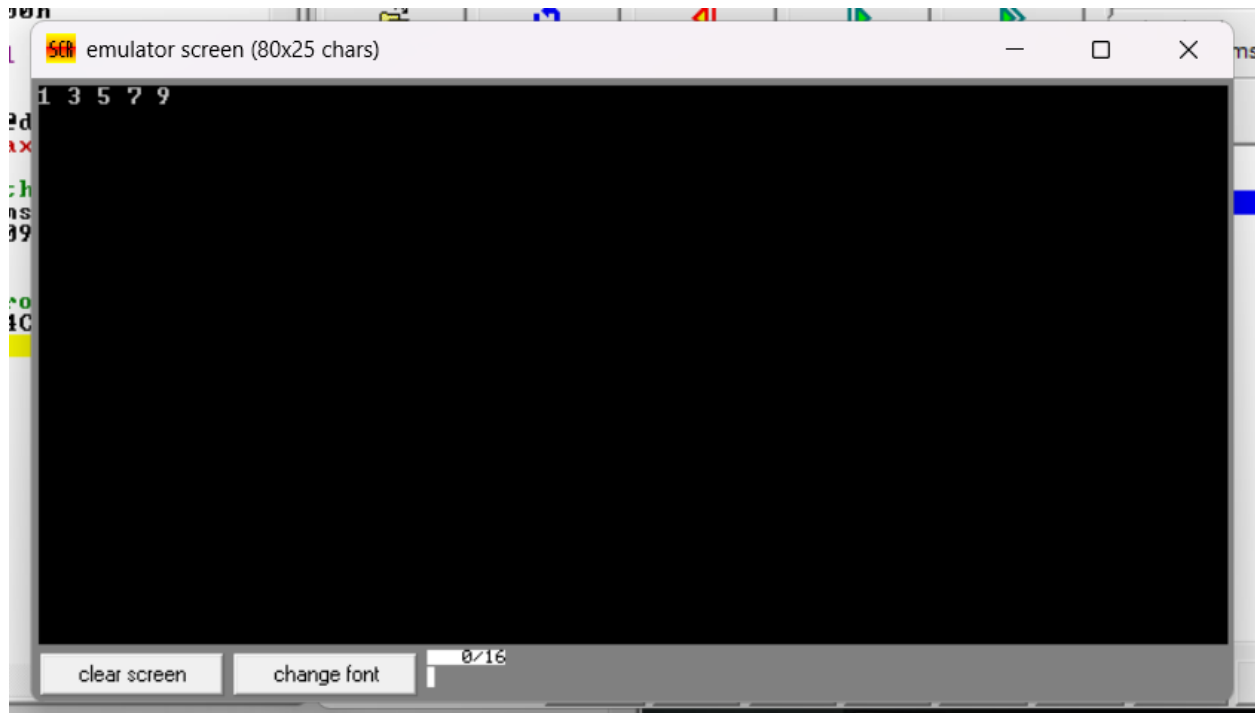
; exit program

mov ah, 4Ch

int 21h

end main

OUTPUT:



Task: 03

```
.model small
```

```
.stack 100h
```

```
.data
```

```
    msg db 'Sum = $'
```

```
.code
```

```
main:
```

```
    mov ax, @data
```

```
    mov ds, ax
```

```
    ; Print "Sum = "
```

```
    mov ah, 09h
```

```
    mov dx, offset msg
```

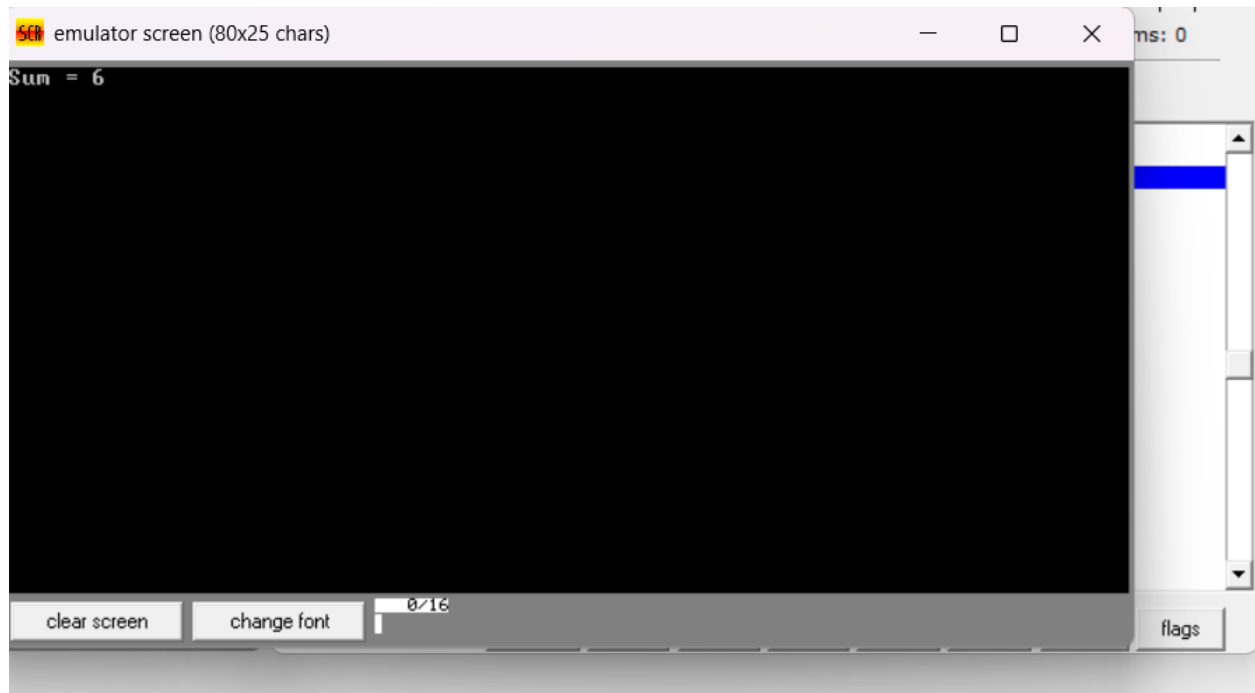
```
    int 21h
```

```
    ; Add first 3 numbers: 1 + 2 + 3 = 6
```

```
    mov al, 1
```

```
add al, 2
add al, 3
; Convert result to ASCII
add al, '0'
mov dl, al
mov ah, 02h
int 21h
; Exit
mov ah, 4Ch
int 21h
end main
```

OUTPUT:

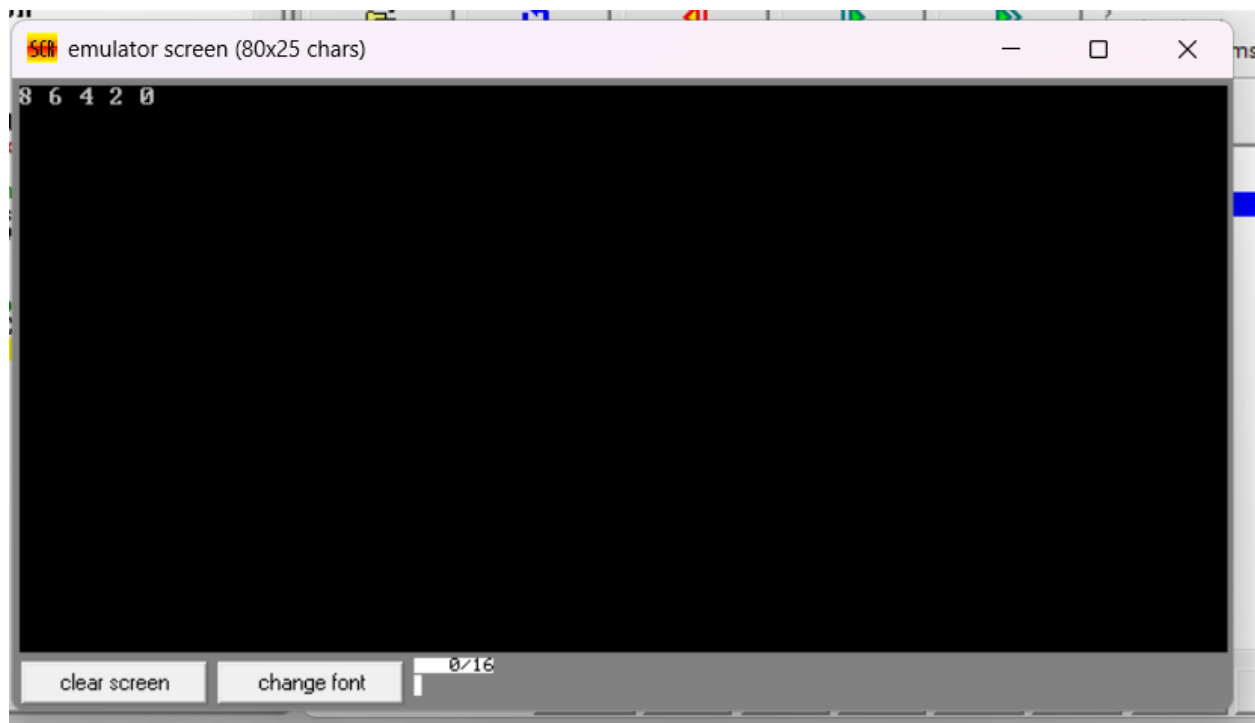


Task: 02

```
.model small
.stack 100h
.data
```

```
msg db '8 6 4 2 0$'
.code
main:
    mov ax, @data
    mov ds, ax
    ; print the message
    lea dx, msg
    mov ah, 09h
    int 21h
    ; exit program
    mov ah, 4Ch
    int 21h
end main
```

OUTPUT:



Task: 04

```

.model small
.stack 100h
.data
    newline db 13, 10, '$' ; carriage return and line feed for new line
.code
main:
    mov ax, @data
    mov ds, ax
    ; Input character from user
    mov ah, 01h    ; function to read character from keyboard
    int 21h
    mov bl, al    ; store the input character in BL
    mov cx, 10    ; loop 10 times
print_loop:
    ; print newline
    lea dx, newline
    mov ah, 09h
    int 21h
    ; print the character
    mov dl, bl
    mov ah, 02h
    int 21h
    loop print_loop
    ; exit program
    mov ah, 4Ch
    int 21h
end main

```

OUTPUT:



Task: 05

```
.model small
```

```
.stack 100h
```

```
.data
```

```
    newline db 13, 10, '$'
```

```
.code
```

```
main:
```

```
    mov ax, @data
```

```
    mov ds, ax
```

```
    mov cl, 'a'    ; Start from ASCII of 'a'
```

```
print_loop:
```

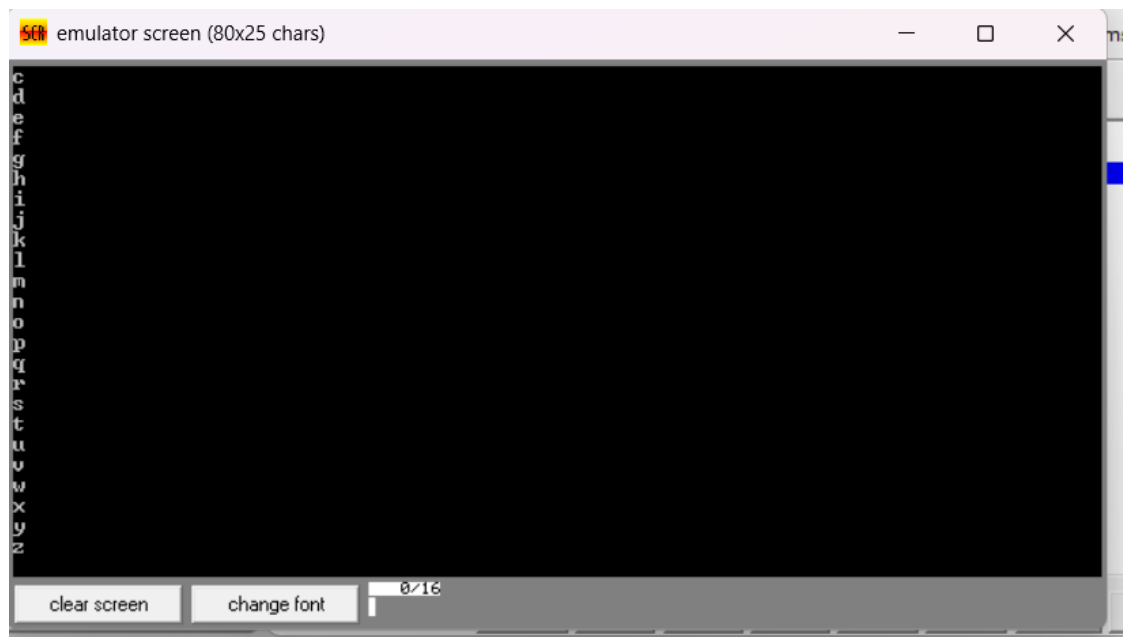
```
    ; Print newline
```

```

    lea dx, newline
    mov ah, 09h
    int 21h
; Print character in CL
    mov dl, cl
    mov ah, 02h
    int 21h
    inc cl      ; Move to next character
    cmp cl, 'z' + 1
    jne print_loop
; Exit program
    mov ah, 4Ch
    int 21h
end main

```

OUTPUT:



Task: 06

```
.model small
```



```

.stack 100h

.data
    newline db 13, 10, '$'

.code

main:
    mov ax, @data
    mov ds, ax

    mov cx, 11    ; total numbers from 10 to 0
    mov bl, 10    ; start from 10

print_loop:
    ; Print newline
    lea dx, newline
    mov ah, 09h
    int 21h

    ; Check if number is 10 (two digits)
    cmp bl, 10
    jne print_single

    ; Print '1'
    mov dl, '1'
    mov ah, 02h
    int 21h

    ; Print '0'
    mov dl, '0'
    mov ah, 02h
    int 21h

    jmp continue_loop

print_single:

```

; Convert to ASCII and print

mov dl, bl

add dl, '0'

mov ah, 02h

int 21h

continue_loop:

dec bl

loop print_loop

; Exit program

mov ah, 4Ch

int 21h

end main

OUTPUT:

