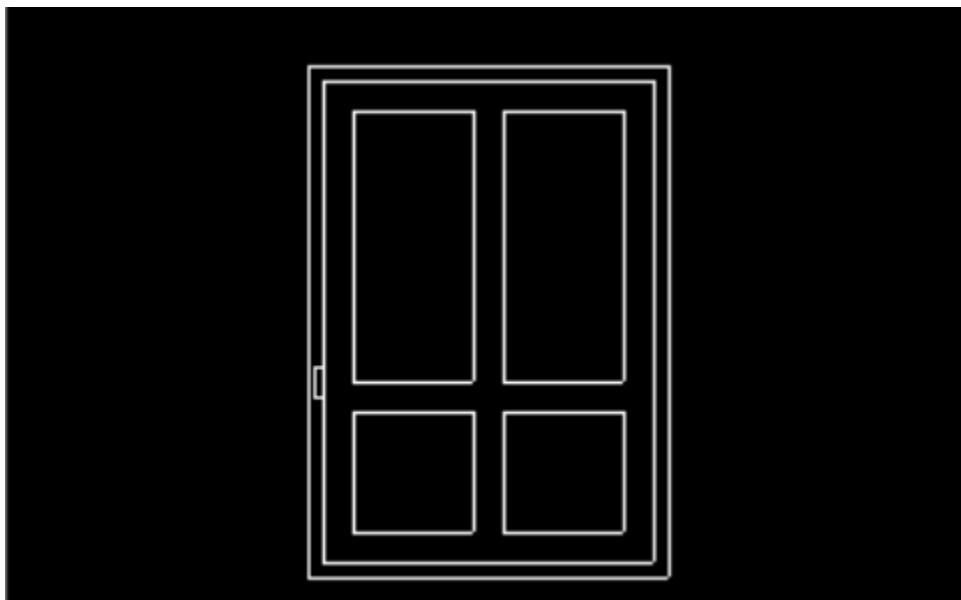


**Assignment COAL – Saghir Ali – 67005 – AI**

**CODE OUTPUT:**



The figure displays a Windows desktop environment with three main windows:

- Assembly Editor (Left):** Shows Saghir's assembly code with comments and labels. It includes sections for `main`, `draw_horizontal`, and `draw_vertical`. The assembly instructions are color-coded: `mov ah,0` is yellow, `int 16h` is red, and `inc cx` is blue.
- Assembly Editor (Right):** Shows the assembly code for Assignment\_COAL\_67005\_Saghir\_Alexe\_. It also includes sections for `main`, `draw_horizontal`, and `draw_vertical`.
- Terminal Window (Bottom):** Shows the output of the assembly code execution. The terminal window title is "emulator: Assignment\_COAL\_67005\_Saghir\_Alexe\_". The output shows the assembly code being loaded and executed, resulting in a window titled "emulator screen (40x25 char)" displaying a 4x3 grid of rectangles.

## CODE:

.model small

.stack 100h

.data

.code

main proc

mov ax,@data

mov ds,ax

mov al,13h

**mov ah,0**

int 10h

mov al,15

```
mov cx,100  
mov dx,20  
mov bl,120  
call draw_horizontal
```

```
mov cx,100  
mov dx,190  
mov bl,120  
call draw_horizontal
```

```
mov cx,100  
mov dx,20  
mov bl,170  
call draw_vertical
```

```
mov cx,220  
mov dx,20  
mov bl,170  
call draw_vertical
```

```
mov cx,105  
mov dx,25  
mov bl,110  
call draw_horizontal
```

```
mov cx,105  
mov dx,185
```

```
mov bl,110  
call draw_horizontal
```

```
mov cx,105  
mov dx,25  
mov bl,160  
call draw_vertical
```

```
mov cx,215  
mov dx,25  
mov bl,160  
call draw_vertical
```

```
mov cx,115  
mov dx,35  
mov bl,40  
call draw_horizontal
```

```
mov cx,115  
mov dx,125  
mov bl,40  
call draw_horizontal
```

```
mov cx,115  
mov dx,35  
mov bl,90  
call draw_vertical
```

```
mov cx,155  
mov dx,35  
mov bl,90  
call draw_vertical
```

```
mov cx,165  
mov dx,35  
mov bl,40  
call draw_horizontal
```

```
mov cx,165  
mov dx,125  
mov bl,40  
call draw_horizontal
```

```
mov cx,165  
mov dx,35  
mov bl,90  
call draw_vertical
```

```
mov cx,205  
mov dx,35  
mov bl,90  
call draw_vertical
```

```
mov cx,115
```

```
mov dx,135  
mov bl,40  
call draw_horizontal
```

```
mov cx,115  
mov dx,175  
mov bl,40  
call draw_horizontal
```

```
mov cx,115  
mov dx,135  
mov bl,40  
call draw_vertical
```

```
mov cx,155  
mov dx,135  
mov bl,40  
call draw_vertical
```

```
mov cx,165  
mov dx,135  
mov bl,40  
call draw_horizontal
```

```
mov cx,165  
mov dx,175  
mov bl,40
```

call draw\_horizontal

mov cx,165

mov dx,135

mov bl,40

call draw\_vertical

mov cx,205

mov dx,135

mov bl,40

call draw\_vertical

mov cx,102

mov dx,120

mov bl,10

call draw\_vertical

mov cx,102

mov dx,120

mov bl,4

call draw\_horizontal

mov cx,102

mov dx,130

mov bl,4

call draw\_horizontal

```
mov ah,0
```

```
int 16h
```

```
mov ax,3
```

```
int 10h
```

```
mov ah,4ch
```

```
int 21h
```

```
main endp
```

```
draw_horizontal proc
```

```
h_loop:
```

```
    mov ah,0ch
```

```
    int 10h
```

```
    inc cx
```

```
    dec bl
```

```
    jnz h_loop
```

```
    ret
```

```
draw_horizontal endp
```

```
draw_vertical proc
```

```
v_loop:
```

```
    mov ah,0ch
```

```
    int 10h
```

```
    inc dx
```

```
    dec bl
```

```
    jnz v_loop
```

ret

draw\_vertical endp

end main