**SCHOOL SUBJECT**

Salanatin, Nathaly Pearl F. Priscilla Sotelo-Bator

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**Prelim Exam Assembly Language (Part 2b)**

**Instructions:**

Make a program that will perform the following in the following sequence:

first: run the LED light to count from 1 to 8,

second: run the vertical traffic lights for 8 seconds,

third: run the horizontal traffic lights for 8 seconds,

fourth: turn on all red lights, and

fifth: run the LED light to count from 8 to 1

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| **SOURCE CODE** | **OUTPUT** |
| **first:** run the LED light to count from 1 to 8,  ;Salanatin, Nathaly Pearl F | BSCS NS 2AB  #start=led\_display.exe#  org 100h  mov ax,0  mov cx,9    jmphere:  out 199, ax  dec ax  loop jmphere:  mov ah, 4ch  int 21h  ret |  |
| **second**: run the vertical traffic lights for 8 seconds,  ;Salanatin, Nathaly Pearl F | BSCS NS 2AB  #start=Traffic\_Lights.exe#  name "traffic"  mov ax, all\_red  out 4, ax  mov si, offset situation  next:  mov ax, [si]  out 4, ax  ; wait 5 seconds (5 million microseconds)  mov cx, 4Ch ; 004C4B40h = 5,000,000  mov dx, 4B40h  mov ah, 86h  int 15h  add si, 2 ; next situation  cmp si, sit\_end  jb next  mov si, offset situation  jmp next  ; FEDC\_BA98\_7654\_3210  situation dw 0000\_0011\_0000\_1100b  s1 dw 0000\_0110\_1001\_1010b  s2 dw 0000\_1000\_0110\_0001b  s3 dw 0000\_1000\_0110\_0001b  s4 dw 0000\_0100\_1101\_0011b  sit\_end = $  all\_red equ 0000\_0010\_0100\_1001b |  |
| **third:** run the horizontal traffic lights for 8 seconds,  ;Salanatin, Nathaly Pearl F | BSCS NS 2AB  #start=Traffic\_Lights.exe#  name "traffic"  mov ax, all\_red  out 4, ax  mov si, offset situation  next:  mov ax, [si]  out 4, ax  ; wait 5 seconds (5 million microseconds)  mov cx, 4Ch ; 004C4B40h = 5,000,000  mov dx, 4B40h  mov ah, 86h  int 15h  add si, 2 ; next situation  cmp si, sit\_end  jb next  mov si, offset situation  jmp next  ; FEDC\_BA98\_7654\_3210  situation dw 0000\_0011\_0000\_1100b  s1 dw 0000\_0110\_1001\_1010b  s2 dw 0000\_1000\_0110\_0001b  s3 dw 0000\_1000\_0110\_0001b  s4 dw 0000\_0100\_1101\_0011b  sit\_end = $  all\_red equ 0000\_0010\_0100\_1001b |  |
| **fourth**: turn on all red lights, and  ;Salanatin, Nathaly Pearl F | BSCS NS 2AB  #start=Traffic\_Lights.exe#  name "traffic"  mov ax, all\_red  out 4, ax  mov si, offset situation  next:  mov ax, [si]  out 4, ax  ; wait 5 seconds (5 million microseconds)  mov cx, 4Ch ; 004C4B40h = 5,000,000  mov dx, 4B40h  mov ah, 86h  int 15h  add si, 2 ; next situation  cmp si, sit\_end  jb next  mov si, offset situation  jmp next  ; FEDC\_BA98\_7654\_3210  situation dw 0000\_0011\_0000\_1100b  s1 dw 0000\_0110\_1001\_1010b  s2 dw 0000\_1000\_0110\_0001b  s3 dw 0000\_1000\_0110\_0001b  s4 dw 0000\_0100\_1101\_0011b  sit\_end = $  all\_red equ 0000\_0010\_0100\_1001b |  |
| **fifth:** run the LED light to count from 8 to 1  ;Salanatin, Nathaly Pearl F | BSCS NS 2AB  #start=led\_display.exe#  org 100h  mov ax,6  mov cx,8    jmphere:  out 199, ax  dec ax  loop jmphere:  mov ah, 4ch  int 21h  ret |  |