



New Era University

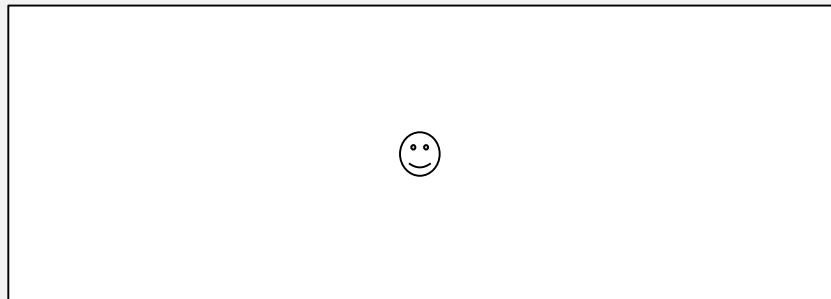
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Direction: Using your computer, construct an assembly language program that will show the output given below. After you successfully run your program, write the codes on the space provided.

Display the smiley at the center of the screen.

OUTPUT 1:



Display NEW ERA UNIVERSITY inside the single line box at the center of the screen in different text colors (use all colors except black).

OUTPUT 2:



CODE (lab7.asm)

```
TITLE LAB7.ASM
DOSSEG
.MODEL SMALL
.STACK 0100h
.DATA
.CODE
    MOV AX, @DATA
    MOV DS, AX

    MOV AX, 0600h
    MOV BH, 70h
    MOV CX, 0000h
    MOV DX, 184Fh
    INT 10h

    MOV AH, 02h
    MOV BH, 00h
    MOV DH, 0Ch
    MOV DL, 28h
    INT 10h

    MOV AH, 02h
    MOV DL, 1h
    INT 21h

    MOV AX, 4C00h
    INT 21h
END
```

OUTPUT (lab7.asm)

DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DOSBOX

C:\>

Zoomed in:

CODE (lab7_2.asm)
<pre>TITLE LAB7.ASM DOSSEG .MODEL SMALL .STACK 0100h .DATA nline DB 0Ah, 0Dh, "\$" neu DB " New Era University \$" .CODE MOV AX, @DATA MOV DS, AX MOV AX, 0600h MOV BH, 70h ;white background and black text MOV CX, 0000h MOV DX, 184Fh INT 10h MOV AH, 02h MOV BH, 00h MOV DH, 0Bh ;set to row to 11 MOV DL, 1Ch ;starting column number INT 10h MOV AH, 02h ;upper box border MOV DX, 0DAh INT 21h MOV CX, 14h A: MOV AH, 02H MOV DX, 0C4h INT 21H LOOP A MOV AH, 02h MOV DX, 0BFh INT 21h MOV AH, 09h MOV DX, OFFSET nline INT 21h MOV AH, 02h MOV BH, 00h MOV DH, 0Ch ;set to row to center MOV DL, 1Ch INT 10h MOV AH, 02h MOV DX, 0B3h INT 21h MOV AH, 02h ; request to set the cursor position MOV BH, 00h ; page number 0 MOV DH, 0Ch ; Row=12 in decimal MOV DL, 1Eh ; column 31 in decimal INT 10h ; call interrupt service ;module example doesn't work as expected so..</pre>

```
MOV AH, 09h ; request display string with attributes
MOV BH, 00h ; page number 0
MOV BL, 72h ; 7 (White BG), 2 (green TC)
MOV CX, 0001h
INT 10h

MOV AH, 02h
MOV DL, 'N'
INT 21h

MOV AH, 09h ; request display string with attributes
MOV BH, 00h ; page number 0
MOV BL, 7Fh ; 7 (White BG), F (white TC)
MOV CX, 0001h
INT 10h

MOV AH, 02h
MOV DL, 'E'
INT 21h

MOV AH, 09h ; request display string with attributes
MOV BH, 00h ; page number 0
MOV BL, 74h ; 7 (White BG), 4 (red TC)
MOV CX, 0001h
INT 10h

MOV AH, 02h
MOV DL, 'W'
INT 21h

MOV AH, 02h ; Space
MOV DL, ' '
INT 21h

MOV AH, 09h ; request display string with attributes
MOV BH, 00h ; page number 0
MOV BL, 75h ; 7 (White BG), 5 (violet TC)
MOV CX, 0001h
INT 10h

MOV AH, 02h
MOV DL, 'E'
INT 21h

MOV AH, 09h ; request display string with attributes
MOV BH, 00h ; page number 0
MOV BL, 76h ; 7 (White BG), 6 (dark orange TC)
MOV CX, 0001h
INT 10h

MOV AH, 02h
MOV DL, 'R'
INT 21h

MOV AH, 09h ; request display string with attributes
MOV BH, 00h ; page number 0
MOV BL, 78h ; 7 (White BG), 8 (dark green TC)
MOV CX, 0001h
INT 10h

MOV AH, 02h
MOV DL, 'A'
```

```
INT 21h

MOV AH, 02h      ; Space
MOV DL, ' '
INT 21h

MOV AH, 09h ; request display string with attributes
MOV BH, 00h ; page number 0
MOV BL, 79h ; 7 (White BG), 9 (light blue TC)
MOV CX, 0001h
INT 10h

MOV AH, 02h
MOV DL, 'U'
INT 21h

MOV AH, 09h ; request display string with attributes
MOV BH, 00h ; page number 0
MOV BL, 7Ah ; 7 (White BG), A (light green TC)
MOV CX, 0001h
INT 10h

MOV AH, 02h
MOV DL, 'N'
INT 21h

MOV AH, 09h ; request display string with attributes
MOV BH, 00h ; page number 0
MOV BL, 7Bh ; 7 (White BG), B (Cyan TC)
MOV CX, 0001h
INT 10h

MOV AH, 02h
MOV DL, 'I'
INT 21h

MOV AH, 09h ; request display string with attributes
MOV BH, 00h ; page number 0
MOV BL, 7Ch ; 7 (White BG), C (light red TC)
MOV CX, 0001h
INT 10h

MOV AH, 02h
MOV DL, 'V'
INT 21h

MOV AH, 09h ; request display string with attributes
MOV BH, 00h ; page number 0
MOV BL, 7Dh ; 7 (White BG), D (pink TC)
MOV CX, 0001h
INT 10h

MOV AH, 02h
MOV DL, 'E'
INT 21h

MOV AH, 09h ; request display string with attributes
MOV BH, 00h ; page number 0
MOV BL, 7Eh ; 7 (White BG), E (yellow TC)
MOV CX, 0001h
INT 10h

MOV AH, 02h
```

```
MOV DL, 'R'
INT 21h

MOV AH, 09h ; request display string with attributes
MOV BH, 00h ; page number 0
MOV BL, 73h ; 7 (White BG), 1 (dark cyan TC)
MOV CX, 0001h
INT 10h

MOV AH, 02h
MOV DL, 'S'
INT 21h

MOV AH, 09h ; request display string with attributes
MOV BH, 00h ; page number 0
MOV BL, 71h ; 7 (White BG), 1 (blue TC)
MOV CX, 0001h
INT 10h

MOV AH, 02h
MOV DL, 'I'
INT 21h

MOV AH, 09h ; request display string with attributes
MOV BH, 00h ; page number 0
MOV BL, 74h ; 7 (White BG), 4 (red TC)
MOV CX, 0001h
INT 10h

MOV AH, 02h
MOV DL, 'T'
INT 21h

MOV AH, 09h ; request display string with attributes
MOV BH, 00h ; page number 0
MOV BL, 78h ; 7 (White BG), 8 (dark green TC)
MOV CX, 0001h
INT 10h

MOV AH, 02h
MOV DL, 'Y'
INT 21h

MOV AH, 02h ; Space
MOV DL, ' '
INT 21h

MOV AH, 02h
MOV DX, 0B3h
INT 21h

MOV AH, 09h
MOV DX, OFFSET nline
INT 21h

MOV AH, 02h
MOV BH, 00h
MOV DH, 0Dh ;set to row to 13
MOV DL, 1Ch
INT 10h

MOV AH, 02h ;bottom box border
MOV DX, 0C0h
```

```
INT 21h

MOV CX, 14h
B:
    MOV AH, 02H
    MOV DX, 0C4h
    INT 21H
    LOOP B

MOV AH, 02h
MOV DX, 0D9h
INT 21h

MOV AX, 4C00h
INT 21h

END
```

OUTPUT (lab7_2.asm)

