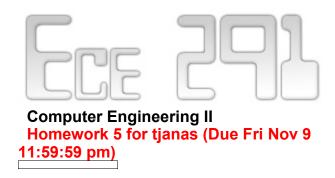
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Homework Questions

Bresenham's Line Algorithm

Using Bresenham's line algorithm, calculate the (x,y) coordinates and relative error for a line from (x1,y1)=(53,20) to (x5,y5)=(56,24). "e1" should be the initial value of the decision variable.

Enter all numbers in decimal (base 10)

• (x1,y1)=(53 [dec] (2 points) ☑ Correct!, 20 [dec] (2 points) ☑ Correct!); e1= 2 [dec] (2 points) ☑ Correct!

• (x3,y3)=(55 [dec] (2 points) Correct!, 22 [dec] (2 points) Correct!); e3= -2 [dec] (2 points) Correct!

• (x4,y4)=(55 [dec] (2 points) Correct!, 23 [dec] (2 points) Correct!); e4= 4 [dec] (2 points) Correct!

• (x5,y5)=(56 [dec] (2 points) Correct!, 24 [dec] (2 points) Correct!); e5= 2 [dec] (2 points) Correct!

Plotting points in graphics mode

Suppose you wish to plot points in 640x480 (32-bit) graphics mode. Determine the offsets of the various pixels specified. Coordinates are specified in (x,y) format.

Specify all numbers in hex

Top row, right-most column of screen

1. EDI = 000009FC [hex] (3 points) ☑ Correct!

Bottom-right corner of screen

2. EDI = 0012BFFC [hex] (3 points) \(\text{Correct!} \)

Bottom row, column 320

3. EDI = 0012BB00 [hex] (3 points) \checkmark Correct!

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Row 291, column 312

```
4. EDI = 000B62E0 [hex] (4 points) ✓ Correct!

Row 312, column 291
```

6. EDI = 00096500 [hex] (4 points) ✓ Correct!

Repeating String Commands

Consider the following code with repeating string commands. Determine the values of OutArray upon completion of this program. Specify the answers in units of four bytes (i.e., The answer to the first question is the value of the first four bytes of OutArray). Every answer should have exactly four ASCII characters.

```
InArray db 'ECE291 IS THE GREATEST CLASS ON THE FACE OF THE EARTH'
             ; You know it is! Admit it! =P
mov ax, cs ; Initialize DS register
mov ds, ax
mov es, ax ; Note ES=DS for these examples
mov ah, 'C'; In the real world, you'llmov dh, 'X'; be forced to deal with promov al, 'E'; that don't comment their
                      ; be forced to deal with programmers
                     ; that don't comment their code...
                       ; Instead, they just add silly
                       ; comments or leave comments blank.
mov di, OutArray
mov si, 18 + InArray
mov cx, 9
cld
stosw
stosb
inc di
movsw
movsw
rep stosb
mov si,23 + InArray
mov cx,5
rep movsb
```

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```
mov cx,36
mov al,'C'
mov di, InArray
repne scasb
add [OutArray+16],CL

mov si, 9 + InArray
mov di, 31 + InArray
mov cx,14
repe cmpsb
add [OutArray+20],CL
```

- 34. OutArray[0..3] = ECEO (4 points) ✓ Correct!
- 35. OutArray[4..7] = TEST (4 points) ✓ Correct!
- 36. OutArray[8..11] = EEEE (4 points) ✓ Correct!
- 37. OutArray[12..15] = EEEE (4 points) ✓ Correct!
- 39. OutArray[20..23] = [S00] (4 points) ✓ Correct!

Submit for Grading

Score: 75 of 75 Highest Saved Score: 75 of 75

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