Wednesday 19

25th Week • 170-195

Algorithm (fuzzy Logic)

1. Start
2. Input A, B, C into array A[3]
3. ~~Initialize~~ declare. Ro[3][3]
4. for i = 1 to 3

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if (A[i] <= 8000)
    Ro[i][0] = 1
    Ro[i][1] = 0
    Ro[i][2] = 0

if (A[i] >= 35000)
    Ro[i][0] = 0
    Ro[i][1] = 0
    Ro[i][2] = 1

if (A[i] > 8000 && A[i] < 35000)
    Ro[i][0] = 1 - (A[i] - 8000) / (35000 - 8000)
    Ro[i][2] = 1 - (35000 - A[i]) / (35000 - 8000)

if (A[i] > 21500)
    Ro[i][1] = 1 - (A[i] - 21500) / (35000 - 21500)
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if (A[i] < 21500)

R0[i][1] = 1 - (21500 - A[i]) / (21500 - 8000)

end for loop.

5. Initialize R1[3][3] = { { 0.62, 0.32, 0.33 },
{ 0.36, 0.82, 0.35 },
{ 0.18, 0.31, 0.76 } }

Initialize.

6. R2[3][3] = { { 0.12, 0.31, 1.0 }, { 0.22, 0.61, 0.56 },
{ 0.82, 0.45, 0.43 } }

7. R3 = Multiply (R0, R1)

8. R4 = Multiply (R3, R2)

9. Declare fa, fb, fc

fa = R4[0][0] fb = R4[1][0] fc = R4[2][0

if (fa > fb AND fa > fc)

Output A

if (fb > fc AND fb > fa)

Output B

if (fc > fa AND fc > fb)

Output C.

10. End.

11. Multiply (A,B)

Input: 2 arrays of size (3x3) (A, B)

Returns:- Result array of size (3x3) (R4)

For i = 0 to 2

For j = 0 to 2

Declare u, v, w

u = A[i][0] v = A[i][1] w = A[i][2]

Declare p, q, r.

p = B[0][j] q = B[1][j] r = B[2][j]

Declare x, y, z

x = min(u, p) y = min(v, q) z = min(w, r)

R4[i][j] = MAX(x, y, z)

End jth loop

End i loop

Return R4 array.