16MI31022

Bhende Dhaneel Dhanraj

Algorithm four Problem on fuzzy logic :

step1: start

step2: Take the three car prices in variable A, B, C

step3: Declare the 3×3 matrix R3 and calculate the matrix as per membership rule. as follows. :

step4:

```
vector<float> mat<float x>{
    vector<float> mat;
    mat.push_back(cheap(x));
    mat.push_back(medium(x));
    mat.push_back(expensive(x));
    return mat;
}
```

step6: calculated 3 function cheap(x), medium(x) expensive(x) as used above.

```
cheap(x): if ~~price~~ x<=8000 return 1
          if(x >8000 && <=35000)
            return (35000-x)/35000-8000)
          else return 0.0;
medium(x): if ~~x~~<8000 return 0
           else if (x>8000 && x<=215000)
           return (x-8000/21500-8000)
           else if (x>21500 && x<=35000)
           return (35000-x/35000-21500)
           else return 0
```

if (x ≤ 8000) return 0.0;
else if (x > 8000 && x ≤ 35000)
return (x − 8000) / (35000 − 8000)
else return 1.0.

step7: Declared Matrix R1[3][3] ~~and calculated~~ for and R2[3][3] as per given in docx

step8: Declared Matrix R4[3][3] and calculated by doing Min-Max Product of R3 and R1

step9: Delared Matrix R5[3][3] and calculated by doing min-max product of R4 and R2

step10: According to demand by girl, devised rules for calculated the prefered ~~boy~~ boy for the given girl. as

step11: If R5[0][0] is maximum
Boy with car A to be choosen
If R5[1][0] is maximum
Boy with car B to be choosen
If R5[2][0] is maximum
Boy with car C to be choosen.

step12: END.