FUZZY LOGIC

x=float(input("temp value"))

y=float(input("press value"))

print("Rule One")

print("Temp is BA")

r=45

l=15

c=(l+r)/2

if x>c and x<=r:

  zt=(r-x)/(r-c)

elif x<=c and x>=l:

  zt=(x-l)/(c-l)

else:

  zt=0

print("value of zt:",zt)

print("Pressure is BA")

r=2.75

l=1.25

c=(l+r)/2

if y>c and y<=r:

  zp=(r-y)/(r-c)

elif y<=c and y>=l:

  zp=(y-l)/(c-l)

else:

  zp=0

print("value of zp:",zp)

print("Rule Two")

print("Temp is low")

r=25

c=10

l=2\*c-r

if x>c and x<=r:

  zt1=(r-x)/(r-c)

elif x<=c and x>=l:

  zt1=(x-l)/(c-l)

else:

  zt1=0

print("value of zt1:",zt1)

print("Pressure is low")

r=1.75

c=1

l=2\*c-r

if y>c and y<=r:

  zp1=(r-y)/(r-c)

elif y<=c and y>=l:

  zp1=(y-l)/(c-l)

else:

  zp1=0

print("value of zp1:",zp1)

z1=min(zt,zp)

z2=min(zt1,zp1)

round\_z1=round(z1,2)

print("value of z1:",round\_z1)

round\_z2=round(z2,2)

print("value of z2:",round\_z2)

print("Rule One for HP")

print("HP is MH")

lhp1=3.25

rhp1=4.75

chp1=(lhp1+rhp1)/2

bhp1=rhp1-lhp1

vhp1=(1/2)\*(bhp1)\*(1)

print("vhp1:",vhp1)

print("Rule Two for HP")

print("HP is High")

lhp2=4.25

chp2=5

rhp2=2\*chp2-lhp2

bhp2=rhp2-lhp2

vhp2=(1/2)\*(bhp2)\*(1)

print("vhp2:",vhp2)

crip\_HP=(((round\_z1)\*(vhp1)\*(chp1))+((round\_z2)\*(vhp2)\*(chp2)))/(((round\_z1)\*(vhp1))+((round\_z2)\*(vhp2)))

print("crip of HP:",crip\_HP)

print("Rule One for VO")

print("VO is ML")

lvo1=1.25

rvo1=2.75

cvo1=(lvo1+rvo1)/2

bvo1=rvo1-lvo1

vvo1=(1/2)\*(bvo1)\*(1)

print("vvo1:",vvo1)

print("Rule Two for VO")

print("VO is small")

rvo2=1.75

cvo2=1

lvo2=2\*cvo2-rvo2

bvo2=rvo2-lvo2

vvo2=(1/2)\*(bvo2)\*(1)

print("vvo2:",vvo2)

crip\_VO=(((round\_z1)\*(vvo1)\*(cvo1))+((round\_z2)\*(vvo2)\*(cvo2)))/(((round\_z1)\*(vvo1))+((round\_z2)\*(vvo2)))

print("crip of VO:",crip\_VO)