**Membership Function**

clc;

clear all;

close all;

a=20;

b=60;

c=80;

for x=1:100

y(x)=max(min(((x-a)/(b-a)),((c-x)/(c-b))),0);

end

subplot(3,2,5);

plot(y);

title('Triangular MF');

ylabel('Membership grade');

a=10;

b=20;

c=60;

d=95;

for x=1:100

e=(x-a)/(b-a);

f=(d-x)/(d-c);

A=[e 1 f];

y(x)=max(min(A),0);

end

subplot(3,2,2);

plot(y);

title('Trapezoidal MF');

ylabel('Membership grade');

s=20;

c=50;

for x=1:100

y(x)=exp(-((x-c)^2)/(2\*s\*s));

end

subplot(3,2,3);

plot(y);

title('Gaussian MF');

ylabel('Membership grade');

a=20;

b=4;

c=50;

for x=1:100

y(x)=1/(1+(((x-c)/a)^(2\*b)));

end

subplot(3,2,4);

plot(y);

title('General Bell shaped MF');

ylabel('Membership grade');

a=2;

c=5;

for x=1:20

y1(x)=1/(1+exp(-a\*(x-c)));

end

subplot(3,2,1);

plot(y1);

title('Sigmoidal MF');

ylabel('Membership grade');

**OUTPUT:**

