

AND Gate using MP Neuron Model

```
clc;
clear all;
close all;
x1=[0 0 1 1];
x2=[0 1 0 1];
w1=1;
w2=1;
t=2;
x3=[0 1 2 3 4 5 6 7 8 9];
for i=1:4
    y(i)=(x1(i)*w1)+(x2(i)*w2);
    if(y(i)>=t)
        y(i)=1;
    else
        y(i)=0;
    end;
end;
disp('y=');
disp(y);
scatter(x1,x2);
hold on;
y1=-(w1/w2)*(x3-1.2);
axis([0 2 0 2]);
plot(x3,y1);
```

OUTPUT:

y=

0 0 0 1

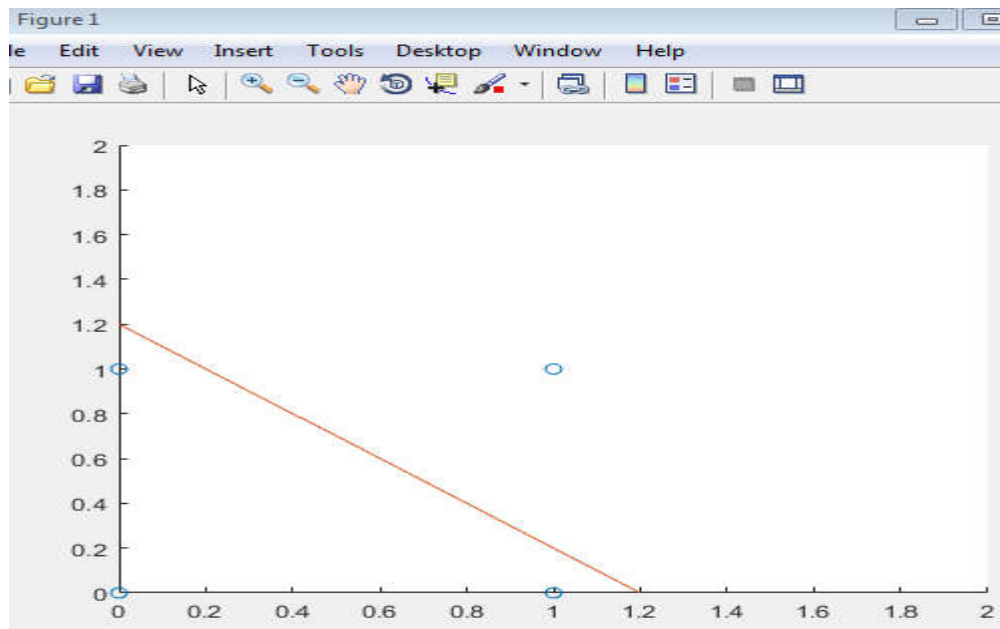


Fig1: Output of AND Gate using MP Neuron Model

OR Gate using MP Neuron Model

```
clc;
clear all;
close all;
x1=[0 0 1 1];
x2=[0 1 0 1];
w1=1;
w2=1;
t=1;
x3=[0 1 2 3 4 5 6 7 8 9];
for i=1:4
    y(i)=(x1(i)*w1)+(x2(i)*w2);
    if(y(i)>=t)
        y(i)=1;
    else
        y(i)=0;
    end;
end;
disp('y=');
disp(y);
scatter(x1,x2);
hold on;
y1=-(w1/w2)*(x3-0.8);
axis([0 2 0 2]);
plot(x3,y1);
```

OUTPUT:

y= 0 1 1 1

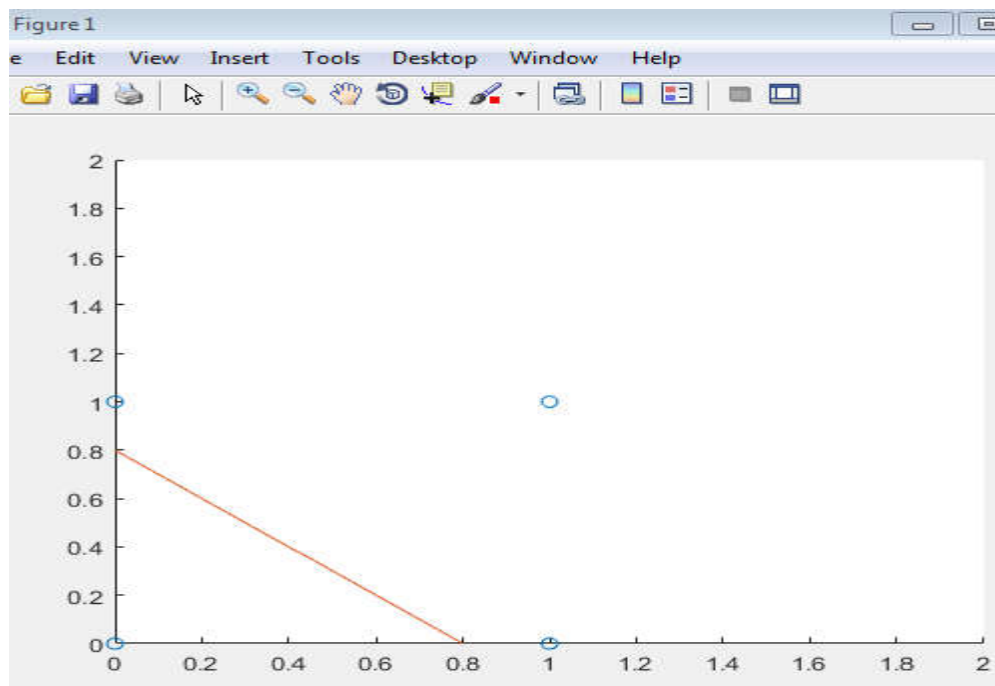


Fig2: Output of OR Gate using MP Neuron Model

AND NOT Gate using MP Neuron Model

```
clc;
clear all;
close all;
x1=[0 0 1 1];
x2=[0 1 0 1];
w1=1;
w2=-1;
t=1;
x3=[0 1 2 3 4 5 6 7 8 9];
for i=1:4
    y(i)=(x1(i)*w1)+(x2(i)*w2);
    if(y(i)>=t)
        y(i)=1;
    else
        y(i)=0;
    end;
end;
disp('y=');
disp(y);
scatter(x1,x2);
hold on;
y1=-(w1/w2)*(x3-0.8);
axis([0 2 0 2]);
plot(x3,y1);
```

OUTPUT:

y= 0 0 1 0

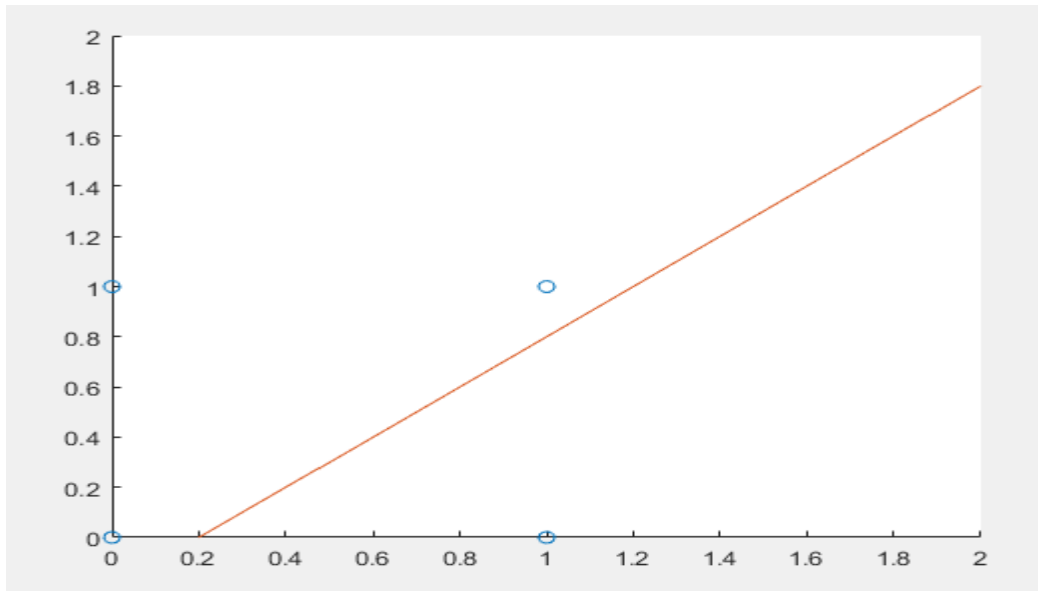


Fig3: Output of AND NOT Gate using MP Neuron Model

X-OR Gate using MP Neuron Model

```
clc;
clear all;
close all;

x1=[0 0 1 1];
x2=[0 1 0 1];
w1=1;
w2=-1;
t=1;

for i=1:4
    z1(i)=(x1(i)*w1)+(x2(i)*w2);
    if(z1(i)>=t)
        z1(i)=1;
    else
        z1(i)=0;
    end;
end;

w1=-1;
w2=1;
t=1;

for i=1:4
    z2(i)=(x1(i)*w1)+(x2(i)*w2);
    if(z2(i)>=t)
        z2(i)=1;
    else
        z2(i)=0;
    end;
end;

w1=1;
w2=1;
t=1;

for i=1:4
    y(i)=(z1(i)*w1)+(z2(i)*w2);
    if(y(i)>=t)
        y(i)=1;
    else
        y(i)=0;
    end;
end;
disp(y);
```

OUTPUT:

y=

0	1	1	0
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