```matlab
% Prepared by Arpan Adhikari

g = [1 2 2 1];
h = [1 1 1 1];
N1 = length(g);
N2 = length(h);
N = max(N1,N2);
N3 = N1-N2;
if(N3>=0)
    h = [h, zeros(1,N3)];
else
    g = [g, zeros(1, -N3)];
end
for n=1:N
    y(n)=0
    for i=1:N
        j = n-i+1;
        if(j<=0)
            j=N+j;
        end
        y(n)=y(n)+g(i)*h(j);
    end
end
figure;
subplot(3,1,1);
stem(g);
subplot(3,1,2);
stem(h);
subplot(3,1,3);
stem(j);
disp('The resultant signal is:' );
disp(y)
```

y =

    0   6   6   6

y =

    6   0   6   6

y =
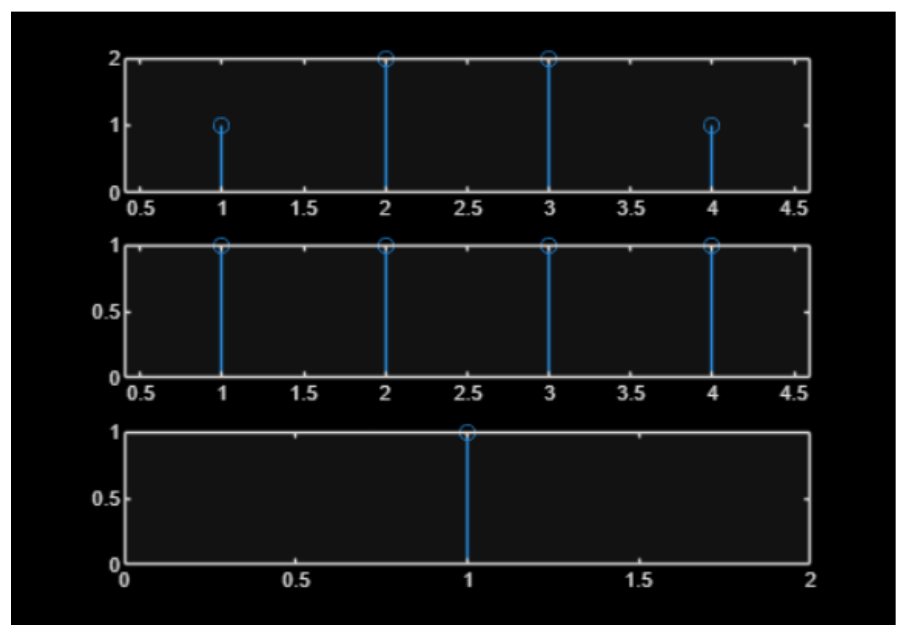
    6   6   0   6

y =

    6   6   6   0

The resultant signal is:
    6   6   6   6

```
% Title : To find the convolution of two signals
% By Arpan Adhikari
x1 = [1,2,3,4];
x2 = [4,3,2,1];
y = conv(x1, x2);
disp('The convolution is');
disp(y)
subplot(2,2,1);
stem(x1);
xlabel('Discrete Time');
ylabel('Amplitude');
title('First Sequence');
axis([-1 5 -1 5]);
subplot(2,2,2);
stem(x2);
xlabel('Discrete Time');
ylabel('Amplitude');
title('Second Sequence');
axis([-1 5 -1 5]);
subplot(2,2,3);
stem(y)
xlabel('Discrete Time');
ylabel('Amplitude');
title('Convolution');
axis([-1 7 -1 12]);
```

The convolution is

    4   11   20   30   20   11   4