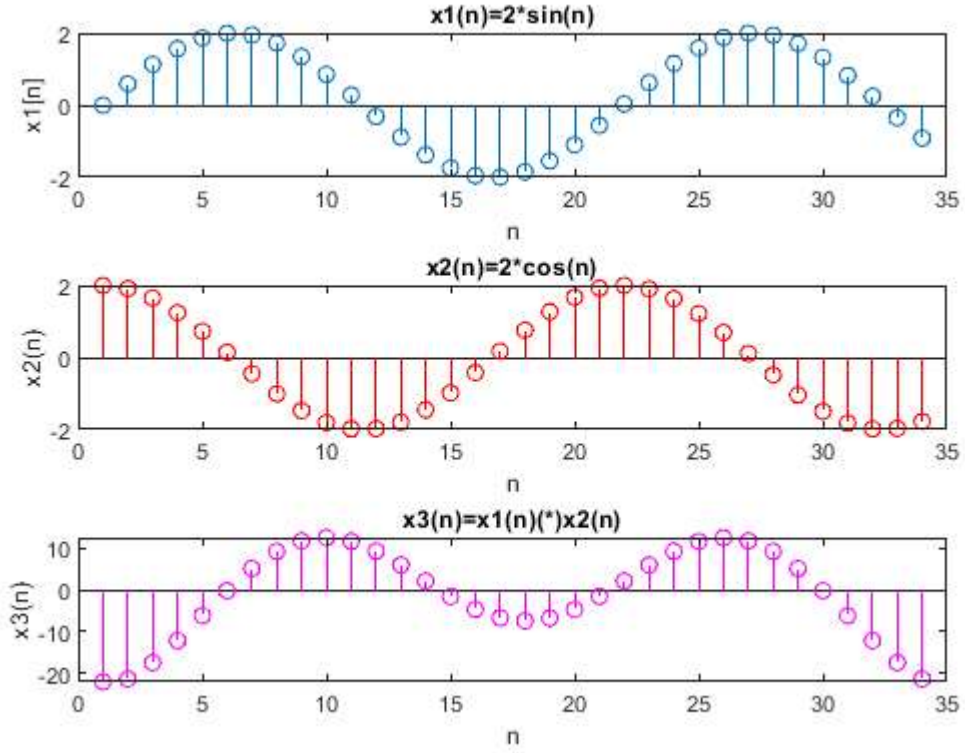
```
%CIRCULAR CONVOLUTION
clc;clear;close all;
n1=0:0.3:10;
x1=2*sin(n1);
n2=0:0.3:10;
x2=2*cos(n2);
X1=my_dft(x1);
X2=my_dft(x2);
X3=X1.*X2;
x3=my_idft(X3);
fprintf('circular convolved sequence is:');
disp(x3);
subplot(3,1,1),stem(x1),title('x1(n)=2*sin(n)'),xlabel('n'),ylabel('x1[n]' );
subplot(3,1,2),stem(x2,'r'),title('x2(n)=2*cos(n)'),xlabel('n'),ylabel('x2(n)');
subplot(3,1,3),stem(x3,'m'),title('x3(n)=x1(n)(*)x2(n)'),xlabel('n'),ylabel('x3(n)');

%DFT FUNCTION
function f= my_dft(x)
N=length(x);
j=sqrt(-1);
y = zeros(1, N);
for k=1:N
    for n=1:N
        y(k)=y(k)+(x(n)*(exp(-j*2*pi*(k-1)*(n-1)/N)));
    end
end
q=real(y);
f=q;
end

%IDFT FUNCTION
function f=my_idft(X3)
N=length(X3);
j=sqrt(-1);
x=zeros(1,N);
for n=1:N
    for k=1:N
        x(n)=x(n)+((1/N)*X3(k)*(exp(j*2*pi*(k-1)*(n-1)/N)));
    end
end
q=real(x);
f=q;
end
```

```
circular convolved sequence is:  Columns 1 through 7

  -22.0123  -21.3069  -17.4314  -12.1603   -6.1784   -0.2007    5.1081

  Columns 8 through 14

    9.2043   11.7200   12.4963   11.5916    9.2648    5.9363    2.1318

  Columns 15 through 21

   -1.5857   -4.6853   -6.7343   -7.4501   -6.7343   -4.6853   -1.5857

  Columns 22 through 28

    2.1318    5.9363    9.2648   11.5916   12.4963   11.7200    9.2043
```

```
Columns 29 through 34

   5.1081   -0.2007   -6.1784  -12.1603  -17.4314  -21.3069
```



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