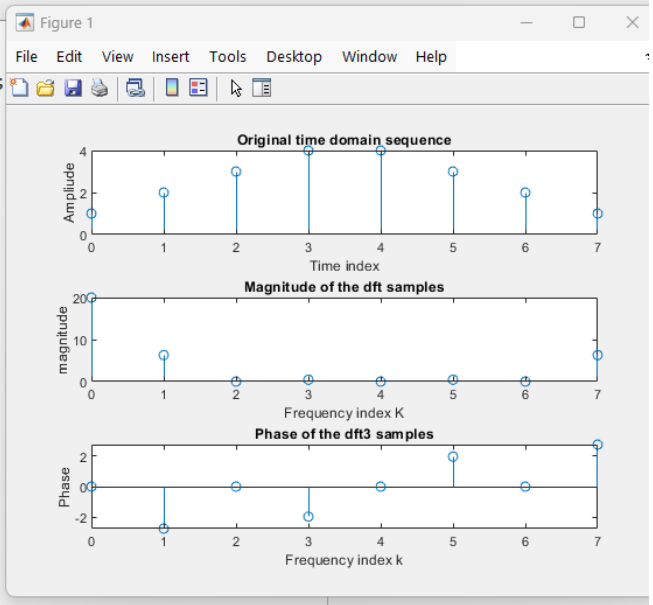
untitled.m *

```
%23BEE1002
%V.S.Preethi sri
N=input('Enter the length of the sequence');
M=input('Enter the length of DFT=');
u=input('Enter the sequence');
U=fft(u,M);
t=0:1:N-1;
subplot(3,1,1);
stem(t,u);
title('Original time domain sequence');
xlabel('Time index');
ylabel('Ampliude');
subplot(3,1,2);
k=0:1:M-1;
stem(k,abs(U))
title('Magnitude of the dft samples');
xlabel('Frequency index K');
ylabel('magnitude');
subplot(3,1,3);
stem(k,angle(U))
title('Phase of the dft3 samples');
xlabel('Frequency index k');
ylabel('Phase');
disp('Magnitude of DFT');
disp(abs(U));
disp('Phase of DFT');
disp(angle(U));
```

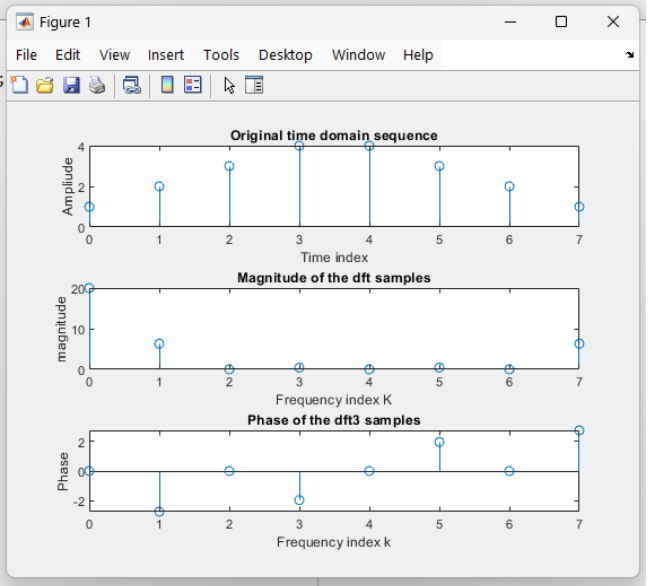



```
>> untitled
Enter the length of the sequence8
Enter the length of DFT=8
Enter the sequence[1,2,3,4,4,3,2,1]
Magnitude of DFT
  Columns 1 through 6

   20.0000    6.3086         0    0.4483         0    0.4483

  Columns 7 through 8

         0    6.3086

Phase of DFT
  Columns 1 through 6

         0   -2.7489         0   -1.9635         0    1.9635

  Columns 7 through 8

         0    2.7489

fx >>
```

Editor - D:\23BEC1020\untitled.m *

untitled.m *

```
%23BEE1055
%Renushree T
N=input('Enter the length of the sequence');
M=input('Enter the length of DFT=');
u=input('Enter the sequence');
U=fft(u,M);
t=0:1:N-1;
subplot(3,1,1);
stem(t,u);
title('Original time domain sequence');
xlabel('Time index');
ylabel('Ampliude');
subplot(3,1,2);
k=0:1:M-1;
stem(k,abs(U))
title('Magnitude of the dft samples');
xlabel('Frequency index K');
ylabel('magnitude');
subplot(3,1,3);
stem(k,angle(U))
title('Phase of the dft3 samples');
xlabel('Frequency index k');
ylabel('Phase');
disp('Magnitude of DFT');
disp(abs(U));
disp('Phase of DFT');
disp(angle(U));
```

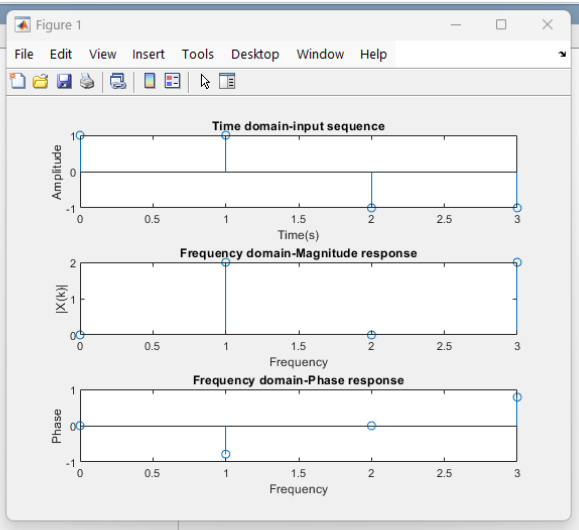



```
>> untitled
Enter the length of the sequence8
Enter the length of DFT=8
Enter the sequence[1,2,3,4,4,3,2,1]
Magnitude of DFT
  Columns 1 through 6

   20.0000    6.3086         0    0.4483         0    0.4483

  Columns 7 through 8

         0    6.3086

Phase of DFT
  Columns 1 through 6

         0   -2.7489         0   -1.9635         0    1.9635

  Columns 7 through 8

         0    2.7489

fx >>
```

Editor - D:\23BEC1020\untitled2.m

untitled.m | untitled2.m | untitled3.m

```
%23BEE1002
%v.s.preethi sri
clc
clear all
x=input('Sequence for N pt dft=');
N=length(x)
X=zeros(N,1)
for k=0:N-1
 for n=0:N-1
 X(k+1)=X(k+1)+x(n+1)*exp(-j*pi*2*n*k/N)
 end
end
t=0:N-1;
subplot(3,1,1);
stem(t,x);
xlabel('Time(s)');
ylabel('Amplitude');
title('Time domain-input sequence');
subplot(3,1,2);
stem(t,X);
xlabel('Frequency');
ylabel('|X(k)|');
title('Frequency domain-Magnitude response');

subplot(3,1,3);
stem(t,angle(X));
xlabel('Frequency');
ylabel('Phase');
title('Frequency domain-Phase response');
X
angle(X)
```



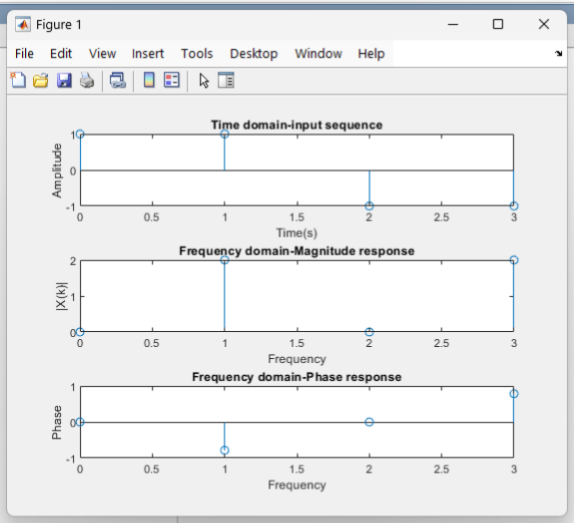

```
X =

   0.0000 + 0.0000i
   2.0000 - 2.0000i
   0.0000 + 0.0000i
   2.0000 + 2.0000i


ans =

         0
   -0.7854
         0
    0.7854
```

TION RUN

Editor - D:\23BEC1020\untitled2.m *

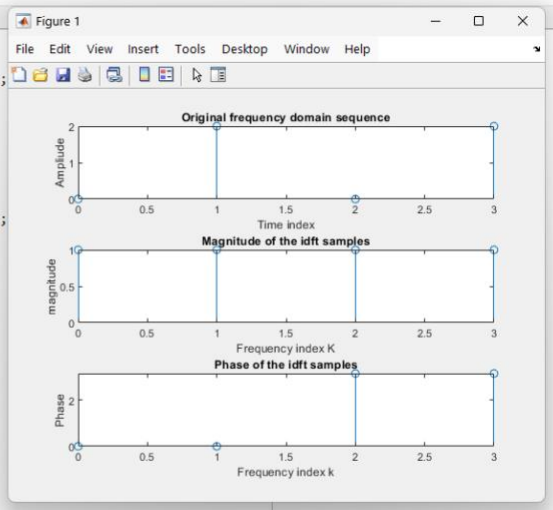
untitled.m | untitled2.m * | untitled3.m

```
%23BEE1055
%Renushree T
clc
clear all
x=input('Sequence for N pt dft=');
N=length(x)
X=zeros(N,1)
for k=0:N-1
 for n=0:N-1
 X(k+1)=X(k+1)+x(n+1)*exp(-j*pi*2*n*k/N)
 end
end
t=0:N-1;
subplot(3,1,1);
stem(t,x);
xlabel('Time(s)');
ylabel('Amplitude');
title('Time domain-input sequence');
subplot(3,1,2);
stem(t,X);
xlabel('Frequency');
ylabel('|X(k)|');
title('Frequency domain-Magnitude response');

subplot(3,1,3);
stem(t,angle(X));
xlabel('Frequency');
ylabel('Phase');
title('Frequency domain-Phase response');
X
angle(X)
```




```
X =

   0.0000 + 0.0000i
   2.0000 - 2.0000i
   0.0000 + 0.0000i
   2.0000 + 2.0000i


ans =

         0
   -0.7854
         0
    0.7854
```

```
%23BEE1002
%v.s.preethi sri
N=input('Enter the length of the sequence');
M=input('Enter the length of DFT=');
u=input('Enter the sequence');
U=ifft(u,M);
t=0:1:N-1;
subplot(3,1,1);
stem(t,u);
title('Original frequency domain sequence');
xlabel('Time index');
ylabel('Ampliude');
subplot(3,1,2);
k=0:1:M-1;
stem(k,abs(U))
title('Magnitude of the idft samples');
xlabel('Frequency index K');
ylabel('magnitude');
subplot(3,1,3);
stem(k,angle(U))
title('Phase of the idft samples');
xlabel('Frequency index k');
ylabel('Phase');
disp('Magnitude of IDFT');
disp(abs(U));
disp('Phase of IDFT');
disp(angle(U));
```

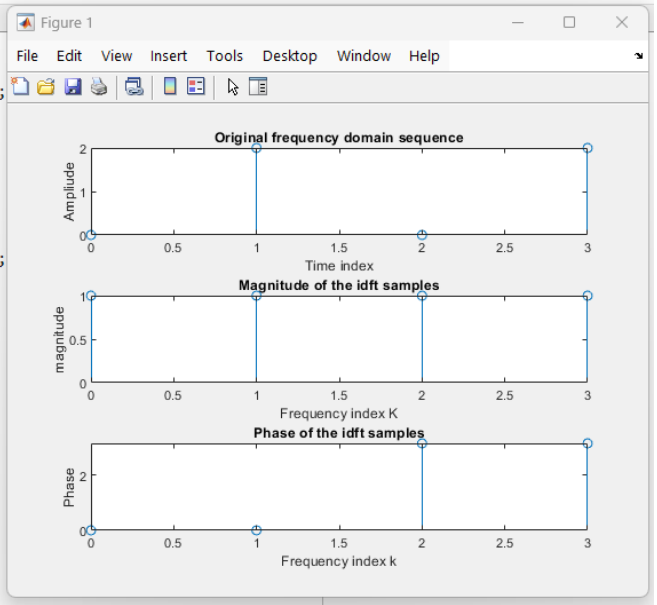



```
Enter the length of the sequence4
Enter the length of DFT=4
Enter the sequence[0,2-2i,0,2+2i]
Warning: Using only the real component of complex data.
> In matlab.graphics.chart.internal.getRealData (line 63)
In stem (line 96)
In untitled3 (line 7)
Magnitude of IDFT
     1     1     1     1

Phase of IDFT
         0         0    3.1416    3.1416
```

Editor - D:\23BEC1020\untitled3.m

untitled.m | untitled2.m | untitled3.m

```
%23BEE1055
%Renushree T
N=input('Enter the length of the sequence');
M=input('Enter the length of DFT=');
u=input('Enter the sequence');
U=ifft(u,M);
t=0:1:N-1;
subplot(3,1,1);
stem(t,u);
title('Original frequency domain sequence');
xlabel('Time index');
ylabel('Ampliude');
subplot(3,1,2);
k=0:1:M-1;
stem(k,abs(U))
title('Magnitude of the idft samples');
xlabel('Frequency index K');
ylabel('magnitude');
subplot(3,1,3);
stem(k,angle(U))
title('Phase of the idft samples');
xlabel('Frequency index k');
ylabel('Phase');
disp('Magnitude of IDFT');
disp(abs(U));
disp('Phase of IDFT');
disp(angle(U));
```




```
Enter the length of the sequence4
Enter the length of DFT=4
Enter the sequence[0,2-2i,0,2+2i]
Warning: Using only the real component of complex data.
> In matlab.graphics.chart.internal.getRealData (line 63)
In stem (line 96)
In untitled3 (line 7)
Magnitude of IDFT
     1     1     1     1

Phase of IDFT
         0         0    3.1416    3.1416
```