Contents

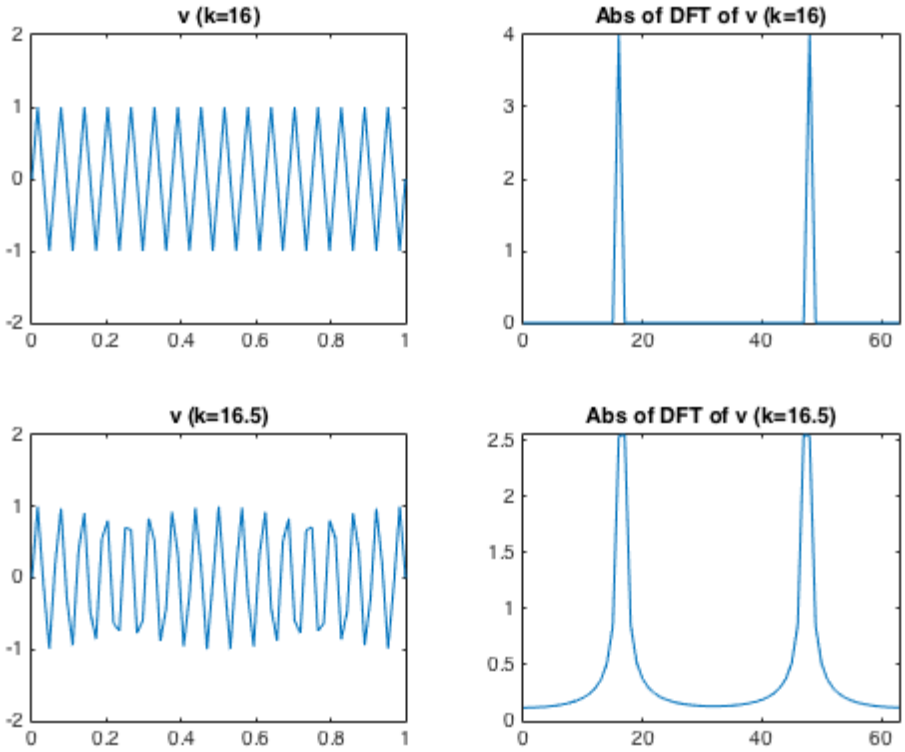

```
function[]=Math671_HW1_p2()

% Givens
N = 64;
dt = 1/N;
t = 0:dt:1;
```

Set up k=16

```
k = 16;
v = sin(2*pi*k*t);
v_hat = fft(v,N)/sqrt(N);

% Plotting for k = 16
subplot(2,2,1)
plot(t,v)
axis([0 1 -2 2])
title('v (k=16)')

n = 0:N-1;
subplot(2,2,2)
plot(n,abs(v_hat))
axis([0 N-1 0 max(abs(v_hat))])
title('Abs of DFT of v (k=16)');
```

Set up k=16.5

```
k = 16.5;
v = sin(2*pi*k*t);
v_hat = fft(v,N)/sqrt(N);

% Plotting for k = 16.5
subplot(2,2,3)
plot(t,v)
axis([0 1 -2 2])
title('v (k=16.5)')

n = 0:N-1;
subplot(2,2,4)
plot(n,abs(v_hat))
axis([0 N-1 0 max(abs(v_hat))])
title('Abs of DFT of v (k=16.5)');
```



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