**FSK:**

clc;

clf;

In=[1 0 1 0 1 0 1];

F=5;

Amp=4;

T=1:0.001:7;

X=Amp\*sin(2\*pi\*F\*T);

Y=Amp\*sin(20\*pi\*F\*T);

subplot(4,1,3);

plot(T,X);

title('carrier frequency 1');

subplot(4,1,2);

plot(T,X);

title('carrier frequency 2');

subplot(4,1,1);

stairs(In);

title('binary input');

M=1;

for I=1:length(T)

if(T(I)<=M)

if(In(M)>0)

Y1(I)=X(I);

else

Y1(I)=Y(I);

end

else

M=M+1;

end

end

subplot(4,1,4);

plot(T,Y1);

title('modulated otput');

**ASK:**

clc;

clf;

In=[1 0 1 0 1 0 1];

F=5;

Amp=4;

T=1:0.001:7;

X=Amp\*sin(2\*pi\*F\*T);

subplot(3,1,2);

plot(T,X);

title('carrier frequency ');

subplot(3,1,1);

stairs(In);

title('binary input');

M=1;

for I=1:length(T)

if(T(I)<=M)

if(In(M)>0)

Y1(I)=X(I);

else

Y1(I)=Y(I);

end

else

M=M+1;

end

end

subplot(3,1,3);

plot(T,Y1);

title('modulated otput');

BARLETT METHOD:

clc;

clf;

n=0:1000;

a=sin(2\*pi\*0.12\*n)+sin(2\*pi\*0.24\*n)+randn(size(n));

figure(1);

plot(n,a);

title('input samples');

nFFT=512;

noverlap=0;

window=hanning(256);

[pxx,f]=PSD(a,nFFT,2,window,noverlap);

figure(2);

plot(f/2,10\*log10(pxx));

title('barlett method - PSD estimate');

WELCH:

clc;

clf;

n=0:1000;

a=sin(2\*pi\*0.12\*n)+sin(2\*pi\*0.24\*n)+randn(size(n));

figure(1);

plot(n,a);

title('input samples');

nFFT=512;

noverlap=128;

window=hanning(256);

[pxx,f]=pwelch(a,window,noverlap,nFFT,[],'twosided');

figure(2);

plot(f/2,10\*log10(pxx));

title('welch method - PSD estimate');

BLACKMANN-TUCKEY:

clc;

clf;

n=0:0.001:1;

a=sin(2\*pi\*100\*n)+sin(2\*pi\*200\*n)+randn(size(n));

figure(1);

plot(n,a);

title('input samples');

rxx=xcorr(a);

n=length(rxx);

w=hanning(n);

s=rxx.\*w';

pxx=fft(s);

pxx=fftshift(pxx);

mag=10\*log10(abs(pxx));

figure(2);

plot(((-(n-1)/2:(n-1)/2)/n\*1000),mag);

title('Blackmann-tuckey method-PSD estimate');

DCT AND IDCT:

clc;

clf;

a=imread('rice.png');

figure(1);

imshow(a);

title('Given image');

c=dct2(a);

figure(2);

imshow(c);

title('DCT of given image');

figure(3);

d=idct2(c);

imshow(d,[]);

title('Reconstruction from DCT');

HISTOGRAM:

clear all;

close all;

clc;

clf;

a=imread('pout.tif');

figure(1);

imshow(a);

title('original image');

figure(2);

imhist(a);

title('histogram of given image');

figure(3);

d=histeq(a);

imshow(d);

title('equalized image');

figure(4);

imhist(d);

title('histogram of eualized image');