**Custom code:**

clear all;

clc;

fs = 10e3; % sampling frequency

% ID: 18-39230-3 sum of id: 29 %

fc = 29; %frequency of the signal

t=[0:1/fs:0.1];

%let's declear the signal

x = 27\*cos(2\*pi\*fc\*t);

%--------------Quantization-----------------%

n= 8;

L = (2^n) - 1;

delta = (max(x) - min(x))/ L ;

i = round((x-min(x)) / delta );

xq = min(x) + i.\*delta;

%-------------END-------------------------%

%Now start draw ploting&

subplot(3,1,1);

plot(t,x);

title('Main Signal')

xlabel('time')

ylabel('Amplitude');

subplot(3,1,2);

stem(t,x,'b');

title('Sampled Signal')

xlabel('time')

ylabel('Amplitude');

subplot(3,1,3);

stairs(t,xq, 'b');

title('Quantized Signal')

xlabel('time')

ylabel('Amplitude');

**Predefine code:**

clear all;

clc;

fs = 10e3;

t=[0:1/fs:0.1];

%---ID: 18-39230-3 sum of: 29 ---%

f=29;

signal = 27\*cos(2\*pi\*f\*t);

partition = linspace(-26.5, 26.5, (2^8) - 1 );

codebook = linspace(-27, 27, (2^8));

[index,quants] = quantiz(signal, partition, codebook);

plot(t,signal,'x', t, quants, '.');

legend('Orginal Signal', 'Quantized signal')