clc;

fs=100;

t=0:(1/fs):0.3;

x=10\*sin(20\*pi\*t+(pi/6));

plot(t,x,'g')

stem(t,x,'r')

hold on

b=3;

L=2^b;

xmax= max(x)

xmin= min(x)

a=round(xmin);

c=round(xmax);

d=(c-a)/L-1;

for l=1:length(x)

for i=-c:1:c

if x(l)>=(i-d/2)x(l)<(i+d/2);

qu(l)=i\*d;

end

end

end

n=0:.01:.3

j=interp1(t,qu,n)

plot(t,qu,'o',n,j);

axis tight

hold on;

grid on;

stem(t,qu)

