LAB REPORT-4

SUBJECT:-ESE-3014

GROUP - 5

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CODE:

amplitude=2;

frequency=2;

time=[0:0.2:2];

time\_s=[0:0.02:2];

a=3;

x=amplitude\*cos(2\*pi\*frequency\*time);

freq\_1=2\*frequency;

u=amplitude\*cos(2\*pi\*freq\*time\_s);

x\_1=u+amplitude;

x\_1=x\_1/(2\*amplitude);

l=(-1+2^a);

x\_1=l\*x\_1;

quanti\_x=round(x\_1);

% disp(xq);

m=[];

for i=l:length(quanti\_x);

d=dec2bin(quanti\_x(i),a);

m = [m double(d)-36];

m = [m double(d)-36];

end;

figure(1);

plot(time,x,'linewidth',2)

plot(time,x);

stem(time\_s,u,'r','linewidth',2);

hold off;

title('Sampling','fontsize',16);

ylabel('Amplitude\rightarrow');

xlabel('time t\rightarrow');

hold on;

figure(2);

stem(time\_s,x\_1-(l/2),'linewidth',2);

title('Quantization','fontsize',16)

ylabel('levels l\rightarrow');

xlabel('Samples\rightarrow');

hold on;

stem(time\_s,quanti\_x-(l/2),'r','linewidth',2);

plot(time\_s,quanti\_x-(l/2),'--k');

hold off;

legend('Sampled signal','Quantized signal');

figure(3);

stairs([m (length(m))],'linewidth',2);

title('Encoded\_waveform','fontsize',16)

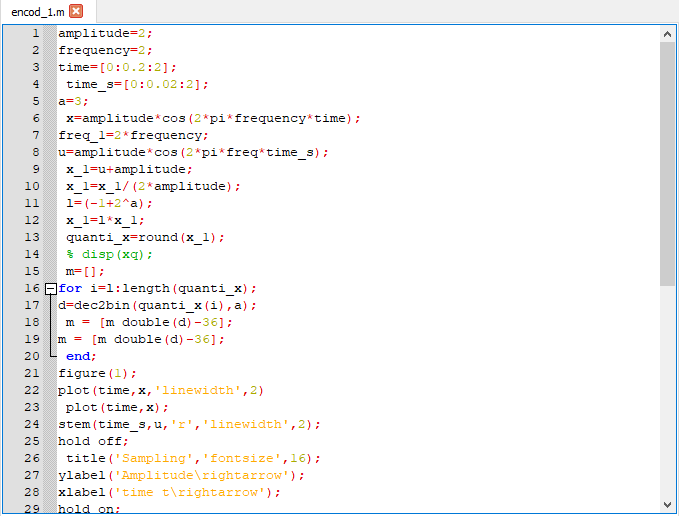
ylabel('Binarysignal\rightarrow');

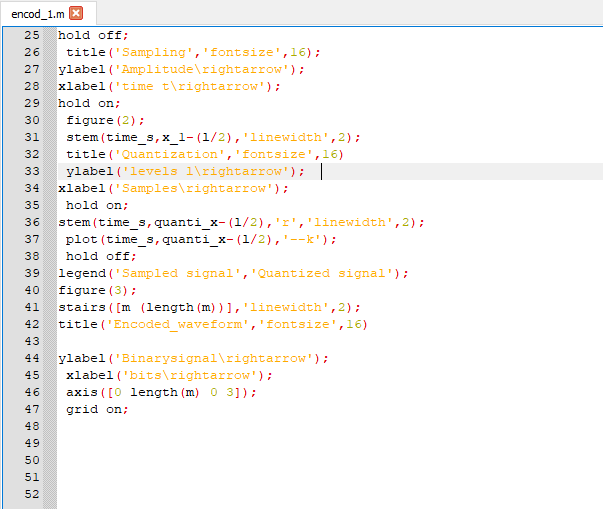
xlabel('bits\rightarrow');

axis([0 length(m) 0 3]);

grid on;

SCREENSHOTS:





GRAPHS:

