

Questions 4 and 5 (matlab) – Assignment 3

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%% A1 - Matlab

clear

clc

%%4-1

v1=[0 1 2 3 4]

v2=[0 1 2 3 4 5 6 7 8]

hn=[1 1 1 -1 1]

xn=[1 -1 1 1 1]

cn=conv(hn,xn)

subplot(5,1,1), stem(v1,hn)

legend('h[n]');

xlabel('Time');

%%4-2

subplot(5,1,2), stem(v1,xn)

legend('x[n]');

xlabel('Time');

%%4-3

subplot(5,1,3), stem(v2,cn)

legend('x[n]*h[n]');

xlabel('Time');

x = [1 zeros(1,19)]

%%5-1

a=[1 -.8]

b=1

k=filter(b,a,x)

subplot(5,1,4), stem(k)

legend('filter()');

xlabel('Time');

%%5-2

t2 = [0:30]

p = 0.8 .^ t2

p = p .* heaviside(t2)

p(1)=p(1)*2

c = conv(x,p)

subplot(5,1,5), stem(c)

legend('conv()');

xlabel('Time');



