Overlap save

function [Y] = ovrlpsav( x,h,N)

Lenx=length(x);

M=length(h);

M1=M-1;

L=N-M1;

h=[h zeros(1-N-M)];

x = [zeros(1,M1),x,zeros(1,N-1)];

k = floor((Lenx+M1-1)/(L));

y = zeros(k+1,N);

for k=0:k

xk=x(k\*L+1:k\*L+N);

y(k+1,:)=cconv(xk,h,N);

end

y=y(:,M:N)';

Y=(y(:))';

end

clc;

clear all;

close all;

n=0:9;

x=n+1;

h=[1,0,-1]

N=6;

[Y]=ovrlpsav(x,h,N)

stem(Y)

Overlap add

clc;

clear all;

close all;

x=[ 1 -1 2 -2 3 -3 4 -4 ];

h=[-1 1];

ln=length(h);

m=mod(length(x),ln);

if(m~=0)

x=[x zeros(1,ln-m)];

end

q=length(x)/ln;

o=zeros(1,length(x)+ln-1);

for i=o:q-1

s=cconv(x(ln\*i+1 : ln\*i+ln),h);

for j=1:2\*ln-1

o(j+i\*ln)=o(j+i\*ln)+s(j);

end

end

disp('output sequence is');

disp((o));

subplot(3,1,1)

stem(x);

grid on

subplot(3,1,2)

stem(h);

grid on

subplot(3,1,3)

stem(o);

grid on