function y = denoising(x,limiar)

% Algoritmo de cancelamento de ruido

% x: sinal ruidoso

% limiar: valor entre 0 e 1 (valor de limiarização)

% y: sinal após o cancelamento de ruído

N = wmaxlev(length(x),'db4');

[X,L] = wavedec(x,N,'db4');

Y = X;

max\_X = max(abs(X));

for k=1:length(X)

if abs(Y(k)) < limiar\*max\_X

Y(k) = 0;

end

end

y = waverec(Y,L,'db4');

>> t = 0:0.001:5;

>> x = sin(2\*pi\*t);

>> x\_ruidoso = x + randn(1,length(t));

>> x\_ruidoso = x + 0.2\*randn(1,length(t));

>> plot(x)

>> plot(x\_ruidoso)

>> wmaxlev(length(x),'db4')

ans =

9

>> N = wmaxlev(length(x),'db4')

N =

9

>> [X,L] = wavedec(x,N,'db4');

>> plot(abs(X))

>> plot(abs(X))

>> y = denoising(x\_ruidoso,0.05);

>> plot(y)

>> plot(x\_ruidoso)

>> figure(2); plot(y)

>> plot(abs(X))

>>