% WAVELET

s=imread('cameraman.tif');

figure,imshow(s),title('original image');

I1=double(s);

%first decomposition

[aa,hh,vv,dd]=dwt2(I1,'db4');

I2=[aa,hh;vv,dd];

figure,imshow(uint8(I2)),title('first level decomposition ');

%second decomposition

[a,h,v,d]=dwt2(I2,'db4');

I3=double([a,h;v,d]);

figure,imshow(uint8(I3)),title('second level decomposition ');

A0 = idwt2(aa,hh,vv,dd ,'db4');

figure,imshow(uint8(A0)),title('inverse dwt image');