```
%%%%%%%%%%%%%% Problem 3  %%%%%%%%%%%%%%%%%%%%%

 % a) Read raw data from file: 256x160, NEX = 1
in = 'T1_350.mri';
Nx = 256;
Ny = 160;
T1FT_350 = read_raw(in,Nx,Ny,6);
 % show the k-space magnitude
imshow(log(abs(T1FT_350)+1),[]);colorbar; axis on; truesize;
title('log(mag(T1FT 350))','FontSize',14,'FontWeight','bold')

%%%% 3b) reconstruct image
% reconstruct the image
t1_350 = fftshift(ifft2(fftshift(T1FT_350)));
 % show the magnitude of the image
imshow(abs(t1_350),[]);

 %%% b) Now with zero-padding
T1FT_350 = zeros(Nx,Nx);
T1FT_350((Nx-Ny)/2+1:(Nx+Ny)/2,:) = read_raw(in,Nx,Ny,3);
 % show the k-space magnitude
imshow(log(abs(T1FT_350)+1),[]);
 % reconstruct the image
t1_350 = fftshift(ifft2(fftshift(T1FT_350)));
 % show the magnitude of the image
imshow(abs(t1_350),[]);  colorbar; axis on; truesize;
title('mag(im)','FontSize',14,'FontWeight','bold')

 %%% c) eliminate the artifact
T1FT_350_C =  zeros(Nx,Nx);
T1FT_350_C((Nx-Ny)/2+1:(Nx+Ny)/2,:) = read_raw(in,Nx,Ny,3);
T1FT_350_C(:,1:2:Nx) = T1FT_350_C(:,1:2:Nx)*(-1);
 % reconstruct the image
t1_350_c = ifft2(T1FT_350_C);
 % show the magnitude of the image
imshow(abs(t1_350_c),[]);colorbar; axis on; truesize;
title('mag(im) corrected','FontSize',14,'FontWeight','bold')
```