With regards to the project:

Your first task should be to get the code running without any problems and see if it attempts to converge. In order to do that, you need to do the following:

---

**STEP 1.** The following parameters in fnlcg have not been defined:

```
% line search parameters
maxlsiter = params.lineSearchItnlim
%maxlsiter=20;

gradToll = params.gradToll
alpha = params.lineSearchAlpha
beta = params.lineSearchBeta
t0 = params.lineSearchT0
```

Initialize them inside fnlcg with the following values:

maxlsiter = 150;
gradToll = 1.0000e-030
alpha = 0.0100
beta = 0.6000
t0 = 1

**STEP 2:**

**Inside fnlcg:**

The variable **res** is defined as **res=obj**

**DEFINE obj and assign to res**

obj=(Ax-b);

res=obj(:)'*obj(:);

**STEP 3:**

An additional step is to define the gradient gradObj for $||Ax-b||_2^2$ in the function gOBJ inside fnlcg. I had explained what the gradient for this will be. Insert that equation in here. If you make any mistake in this equation, the code will stall.

Now, the code should run and will attempt to converge. There will be no improvement in the quality of the resultant images. For that, you need to now expand on grad and res by introducing the other functions and their gradients as described in the paper.

Please make all changes in the revised matlab files I have sent out.