Pseudo code

1. **Function open file**

a. Open the specified file
b. Read the header to get the number of nodes and elements
c. Create arrays for node coordinates and elements connectivity (aka how nodes connect forming the mesh)
d. For each node read in node data and store x, y coordinates (LOOPS)
e. For each element read in element data and store node ids (LOOPS again)
f. Close the file

2. **Compute area function**

a. Extract triangle coordinates
b. Calculate area using determinant formula

3. **Function finding strain**

a. Create area for strain values
b. Calculate position difference between deformed and reference nodes
c. for ach element get the node ids and their displacements
d. calculate area using area compute function
e. construct the matrix
f. reshape displacement into a column vector (to allow for multiplication)
g. calculate strain using the matrix and displacement vector
h. store the strain values

4. **main script**

a. read in file names (reference and deformed) using open file function
b. for each file compute strain
c. display strain values