Recitation Assignment #6

Please do the following problems during your recitation session, including any additional problems given to you by your TA. **This recitation will be due 10 days (72 hours plus a whole week) after the end of your recitation class**. **Please submit any .m files to Sakai. Your .m files should be named in the following format: NETIDRecitation6Problem#, where NETID is your NetID, and # is the problem number. For instance if your NetID was aaa111, and you were answering problem 3, your .m file would be named aaa111Recitation6Problem3.m. All of your .m files should be in the form of a function. If you do not meet these naming requirements, and do not save as a function, you will not receive credit for your submission.** Collaborative problems can be worked on in teams of up to 5 people, as long as each team member individually completes the problem uploads the solution as part of their own Sakai submission or shows the solution to their instructor individually, and lists the names of all collaborators in the Sakai submission. Collaboration and discussion of solutions is not permitted for questions labeled as individual problems.

1. [Collaborative] Write a program that takes a square matrix (NxN) and flips the matrix on its left to right diagonal such that:
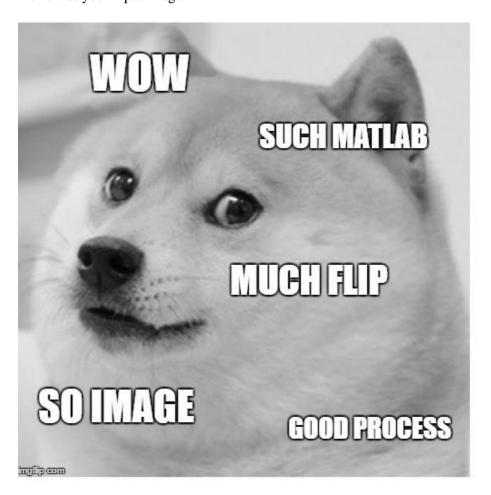
$$
\begin{matrix}
1 & 2 & 3 \\
4 & 5 & 6 \\
7 & 8 & 9
\end{matrix}
$$

Becomes:

$$
\begin{matrix}
1 & 4 & 7 \\
2 & 5 & 8 \\
3 & 6 & 9
\end{matrix}
$$

Use nested loops to accomplish this.

2. [Collaboration] Write a MATLAB function that takes an image (in the form of a matrix) as an input, rotates it 180 degrees, and then returns the rotated image matrix as an output. For example, if this was your input image:

Your output image would be:

You can download and import the image shown in the example. You can use imshow(imagename) to display images. Please use nested loops to accomplish this problem. Please see the attached script that will help you load an image into MATLAB.