Homework 1
Basic Image Manipulation

- You may use any programming language of your choice to implement the functions required in assignment #1, provided that you do not use any library calls except for basic image IO (e.g. OpenCV).
- For part 2, you can use any image processing software. In your report, you must specify which software you used and the steps you took to obtain the required results.
- You must use the image 'lena' as your benchmark.
- Due date: **2018/09/25 2:20pm**
- Grading policy
  Failing to provide a report will reduce your grade by 1~2 levels.
  Using restricted functions within your program (unless specified, as in part 2) will result in a failure of your work.
- Hint: You can use any program language to implement homework. However don't just call libraries, if just call libraries you will get zero point.

Problem

1. Write a program to generate
   (a) upside-down lena.bmp
   (b) right-side-left lena.bmp
   (c) diagonally mirrored lena.bmp
2. Use Photoshop to
   (a) rotate lena.bmp 45 degrees clockwise
   (b) shrink lena.bmp in half
   (c) binarize lena.bmp at 128 to get a binary image