Lab Exercises: LAB 1
(Image I/O & display)

General guidance:

1. Download the template code to make menus and demonstrate how to read, write and manipulate images.
2. All the images you use can be downloaded from the course website: http://www.eecs.qmul.ac.uk/~phao/IP/Images/
3. For RAW images, the files have no head data, just the image data as matrices stored. For our RAW images, we do not provide the colour components, and all the data are gray-scale values, a one-byte unsigned integer per pixel, value from 0 to 255.
4. The size of image Cameraman is of 128x128. Other images are of 512x512.

Exercise 1.

Complete the GUI for image processing exercises

Download the template code (Demo.java) and get familiar with the code and prepare the GUI for the following lab exercises in future. The GUI should include a menu system and "undo" function.

Exercise 2.

Read and display multiple images

Learn and implement reading and displaying multiple images based on the template code. This will be used in future for displaying the original images and the processed images for comparison.

Exercise 3.

Image I/O: Reading an image from an image file of different formats, including RAW (This has been cancelled. You will have 5 extra marks if you have done it.)

To read an image file into a matrix and display the image, given the image size if it is a RAW format. The image format can be any one that you can process easily, but the gray levels of the images should be from 0 to 255 (8 bits).

Questions: Can we try to guess the dimensions of a RAW image if only the size of the image data is given? How?