

CSE 152 Assignment 0

Spring 2012

Due Thursday April 12, 2012

Instructions

- Turn in a hard copy of the completed tutorial, your Part 3 write-up, your Matlab code, and both pairs of images (source & result) in class.
- Email your Matlab source code and results (attach as a zip file) to sbranson@cs.ucsd.edu with the title CSE152 Assignment 0.

Description

The purpose of this assignment is to gain some familiarity with Matlab programming. Matlab is intuitive and easy to use! Even if you do not understand a command or a feature of the language, you can simply consult the reference manual that comes with the program.

Part 1

Visit the cse152 discussion board and sign up at <http://www.piazzza.com> (search for “University of California, San Diego” -> “CSE 152”). This will be used to answer questions regarding the course. If you are unable to join piazza because you don't have a UCSD email, email sbranson@cs.ucsd.edu

Part 2

Matlab tutorial: http://cseweb.ucsd.edu/classes/sp12/cse152-a/hw0/matlab_intro.m. Print out the Matlab tutorial portion of the assignment, check each section off once you have completed it. You should not turn in any Matlab output. You may also make comments next to any portion that caused you trouble, or to make suggestions that would be useful for future revisions of the tutorial.

Part 3

Using your new found Matlab skills, write a program that does the following:

- Read in an image.
- Resize the image to 256 x 256 pixels using bilinear interpolation.
- Tile the image to form 4 quadrants where
 - The top left quadrant is the original image

- The top right is the green channel of the original image (other channels set to zero)
- The bottom left is the red channel (other channels set to zero)
- The bottom right is the blue channel (other channels set to zero)

Test your program with the given image flag.jpg. Your program should be short (5 to 10 lines), and your result should match Figure 1. Then, write a short paragraph explaining your results. Does your program produce the correct output? Does the red/ green/ blue channel separation make sense?



Figure 1: Result for flag.jpg

Finally, try running your program with a picture of yourself! (Note that if your image dimensions are not square, the resulting picture may be distorted, so you may want to crop the image appropriately). Turn in a copy of the source image and the final result with the assignment.