CE 490 – Introduction to Digital Image Processing

MATLAB Exercise #02

Write a MATLAB function/script for the following:

1. Read *breast_Xray.tif* and obtain the **digital negative** of it. Show two images (including the original one) in the same figure and title them correspondingly. *Comment on the result.*

2. Read *moon.tif* and **threshold** it to a binary image with **thr = 60**. Show **a new figure** with the original and the thresholded (binary) images. Title them accordingly. *Comment on the result.*

3. Load *DFT_no_log.tif* and **log-transform** it with **c = 1**. Show two images (including the original one) in **a new figure** and title them correspondingly. *Comment on the result.*

4. Read *washed_aerial.tif* and **power-law transform** it with **c = 1** and **gamma = {3.0, 4.0, 5.0}**. Show all images (including the original one) in **a new figure** and title them with the corresponding gamma value. *Comment on the results.*

5. Read *fractured_spine.tif* and **power-law transform** it with **c = 1** and **gamma = {0.3, 0.4, 0.6}**. Show all images (including the original one) in **a new figure** and title them with the corresponding gamma value. *Comment on the results.*

6. Read *fractal_iris.tif* and show the 7^{th} (MSB), 6^{th}, 5^{th}, 4^{th}, 3^{rd}, 2^{nd}, 1^{st} and 0^{th} (LSB) bit-plane images in **a new figure**. Title them accordingly. *Comment on the result.*