Image Processing
Mini Project 1
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Abstract

This document presents both the target and duplicated images with minimal commentary. Detailed information can be found in the project's .m (MATLAB) file.

1 Figure Analysis pg. 72

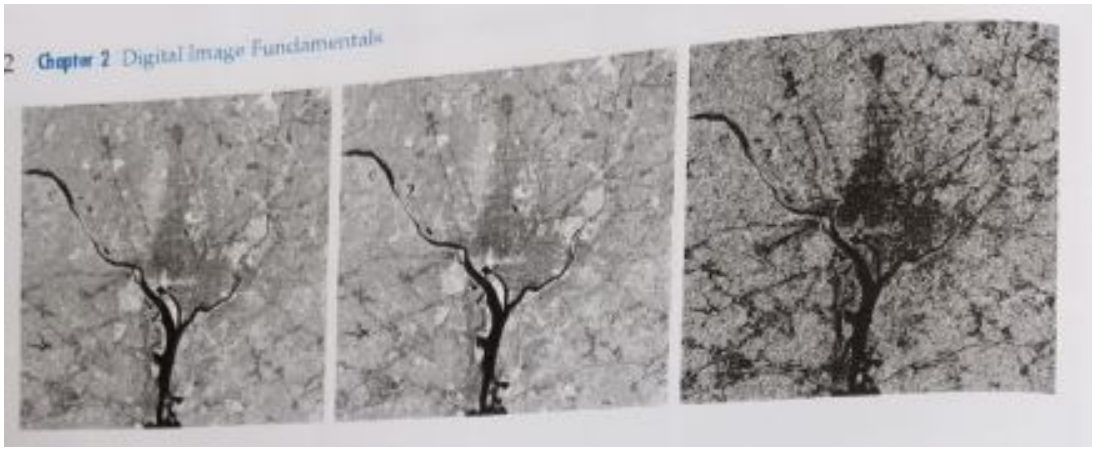

Figure 1: Images on page 72 to match

The middle image is the result from setting the image's least significant bit of every pixel to zero.
The right image is the result of the difference between the two images.
The original image on the left is courtesy of NASA.

2 Figure Analysis pg. 79

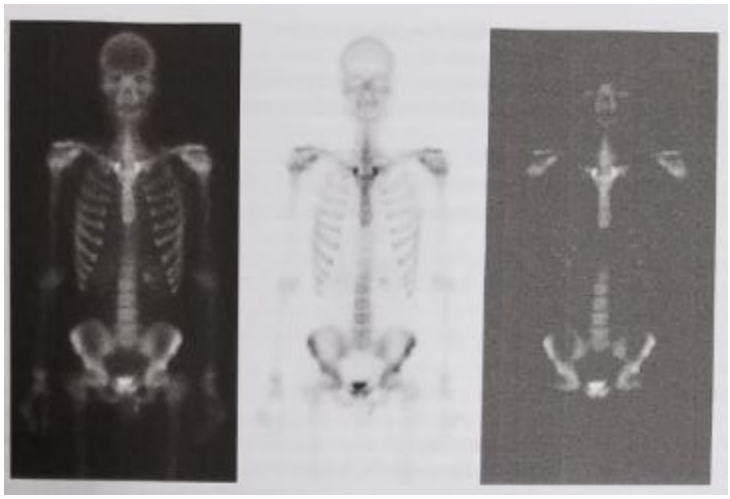

Figure 2: Images on page 79 to match

Left image is original.
Center image is negative of original.
Right image is the union of the other images.
The union of two grayscale sets A and B with the same number of elements is defined as the set.

$$A \Upsilon B = \left\{ max(a,b) \middle| a \epsilon A, b \epsilon B \right\}$$

3 Figure Analysis pg. 137

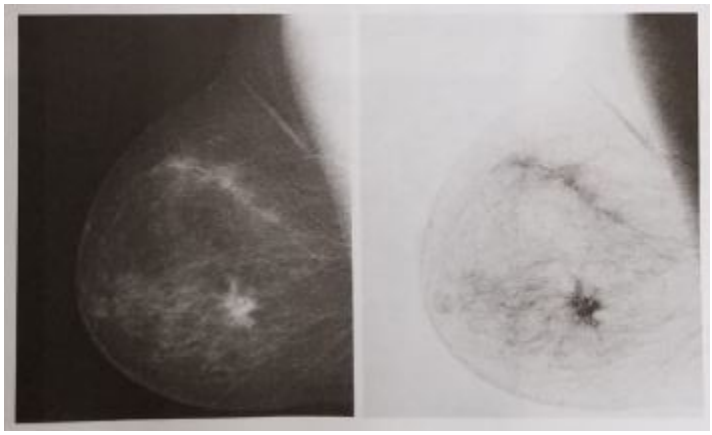

Figure 3: Images on page 137 to match

Left image is original.
Right image is negative of original.

4 Figure Analysis pg. 140

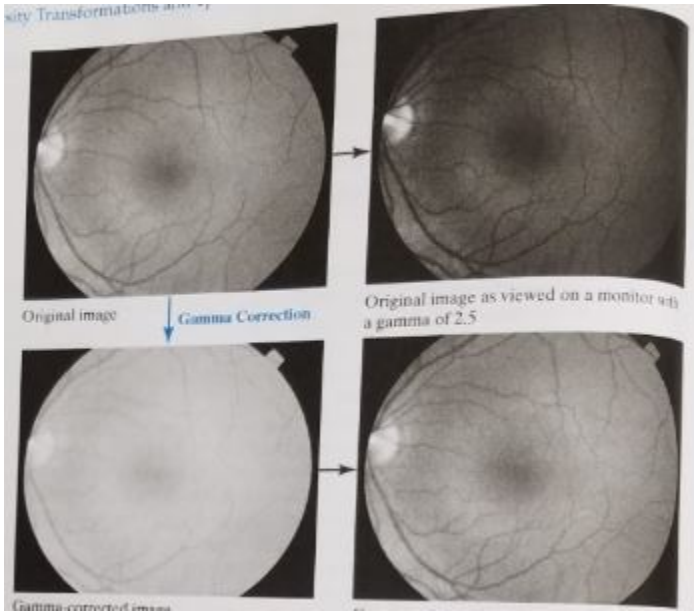

Figure 4: Images on page 140 to match

Upper left image is original.
Upper right image is gamma set to 2.5 of original image.
Lower left image is gamma-corrected image.
Lewer right image is the returning of the gamma-corrected image to monitor image.
Image courtesy of Nation Eye Institute.

5 Figure Analysis pg. 142

Figure 5: Images on page 142 to match

Upper left image is original with noise.
Upper right image is presented with $\gamma = 3.0$.
Lower left image is presented with $\gamma = 4.0$.
Lower right image is presented with $\gamma = 5.0$.
Image courtesy of NASA.