

## Digital Image Processing

### Assignment 1

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#### Problem 1

(a) As Fig.1 shown, the 5th plane contains more noise.

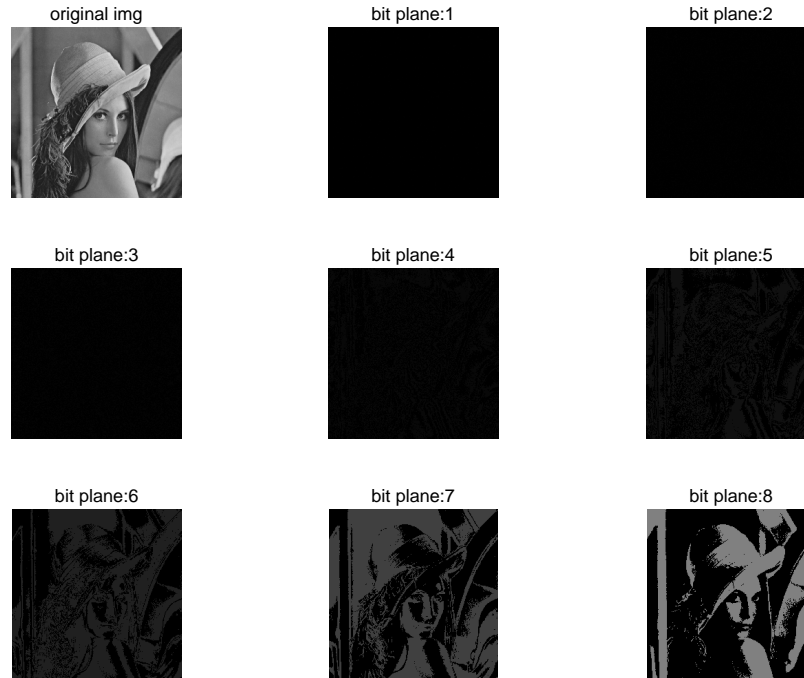


Figure 1: 8 bit plane

(b)

As Fig.2 shown, the result of filtering by Laplacian Filter Mask, Gaussian Filter and Sobel Filter Mask.

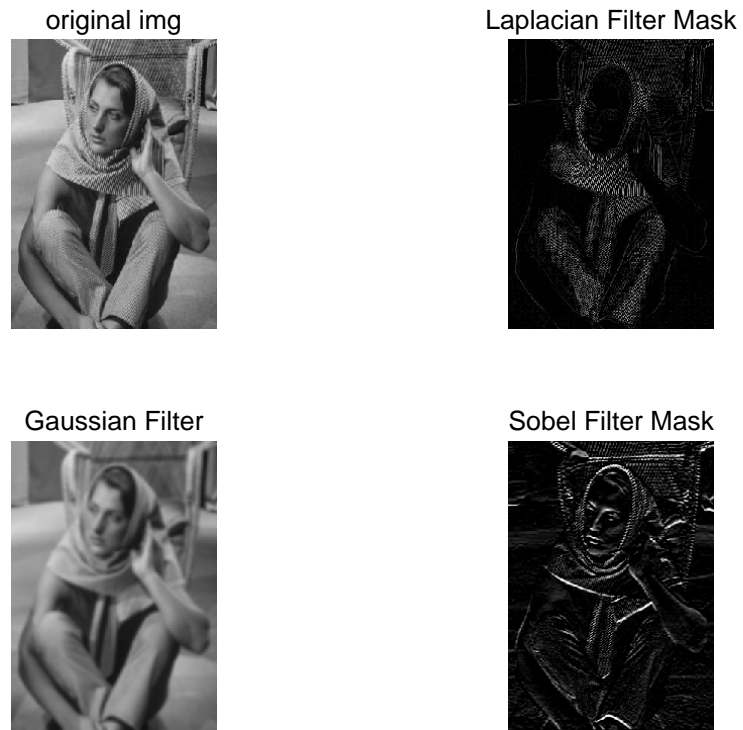


Figure 2: Laplacian Filter Mask, Gaussian Filter and Sobel Filter Mask

(c) As Fig.3 shown, it is the result of Gamma Transformation.

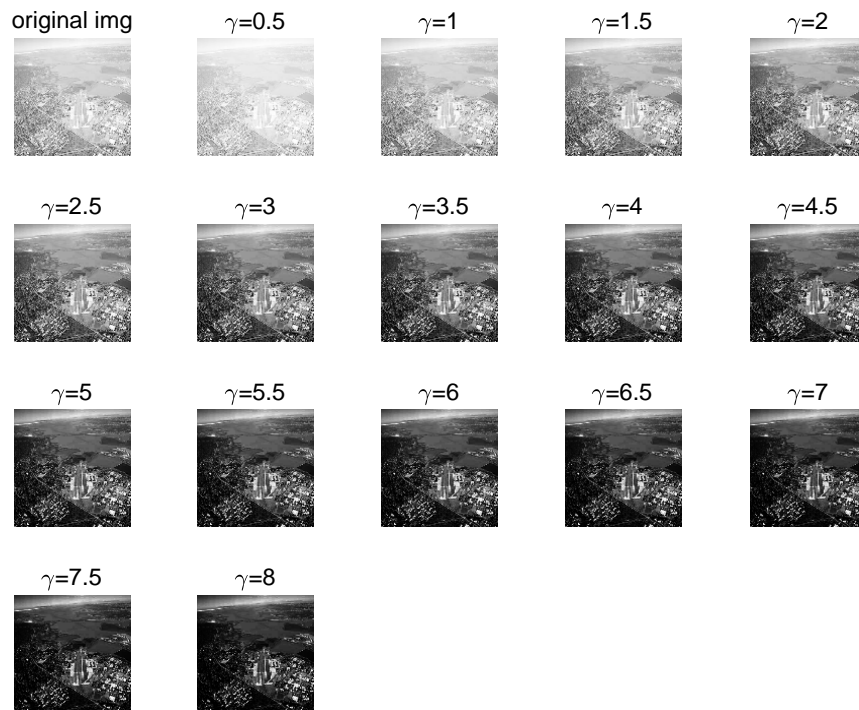


Figure 3: Gamma Transformation

As Fig.4 shown, it is the result of Log Transformation.



Figure 4: Log Transformation

## Problem 2

(a,b) As Fig.5 shown, the mid one is the result of RGGB bayer filter. And the third figuer is the result of HE.



Figure 5: Result of q2's two step

### Problem 3

- (a) As Fig.6, Fig.7 and Fig.8 shown, there are 151 connected domain.

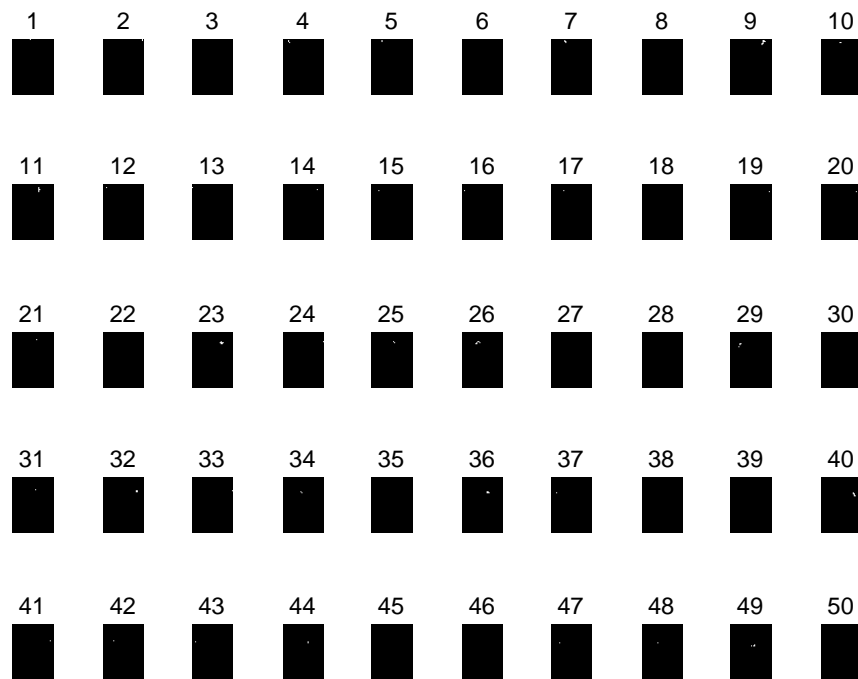


Figure 6: (Part 1) Result of 151 binary images.

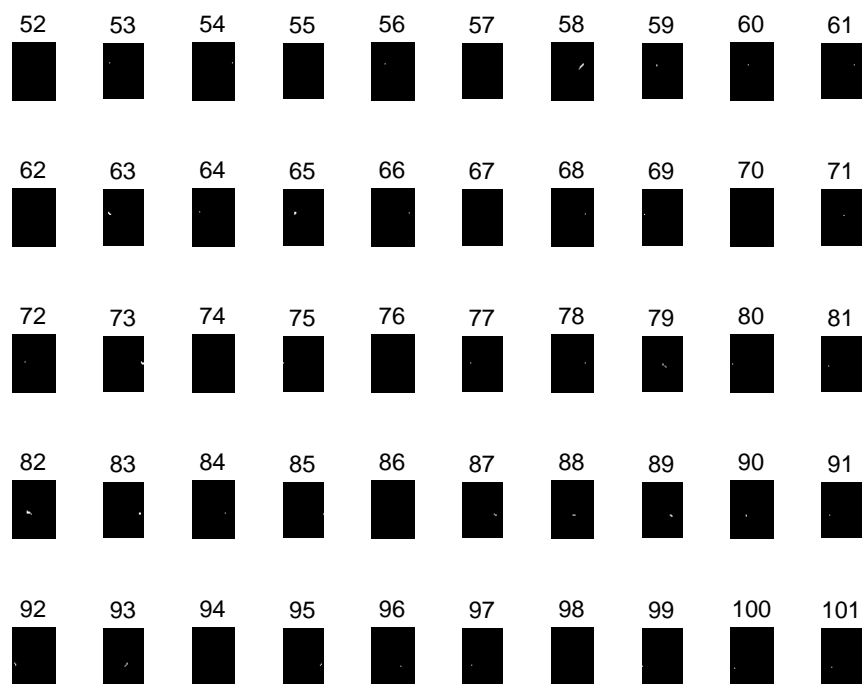


Figure 7: (Part 2) Result of 151 binary images.

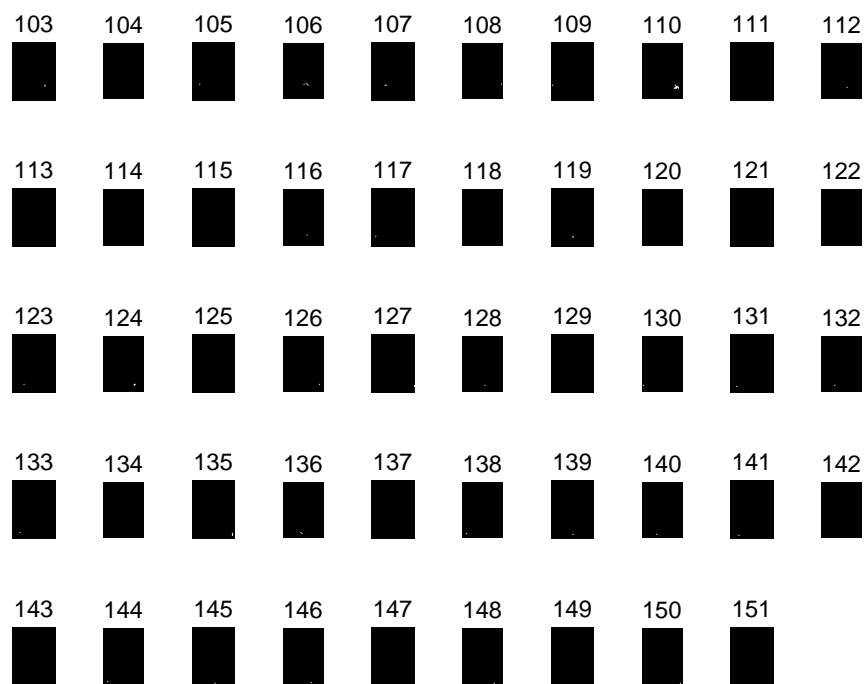


Figure 8: (Part 3) Result of 151 binary images.