Digital Image Processing

Project part 1

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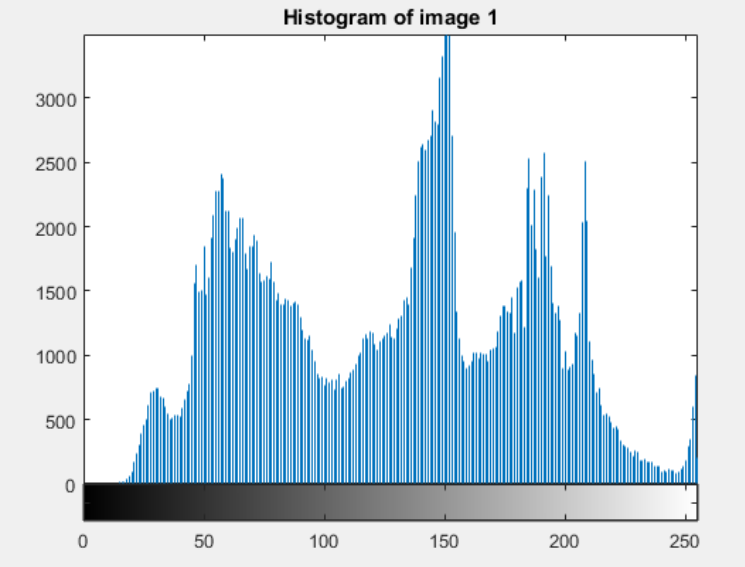
Roll no: 16L-4135

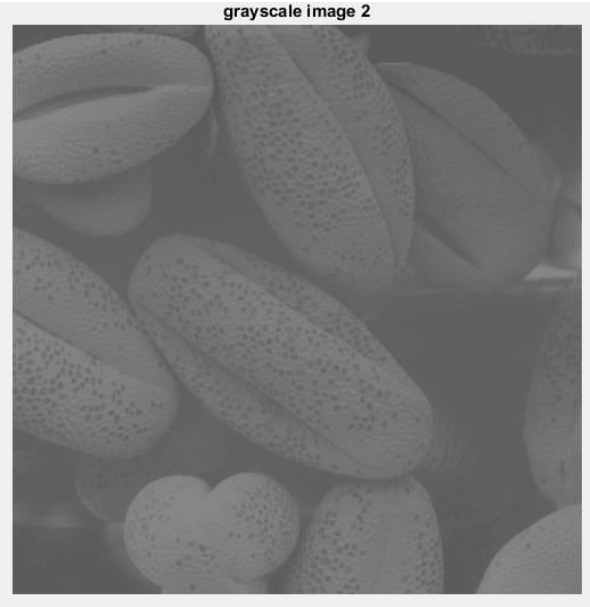
P2.1:

Gray Scale image 1:

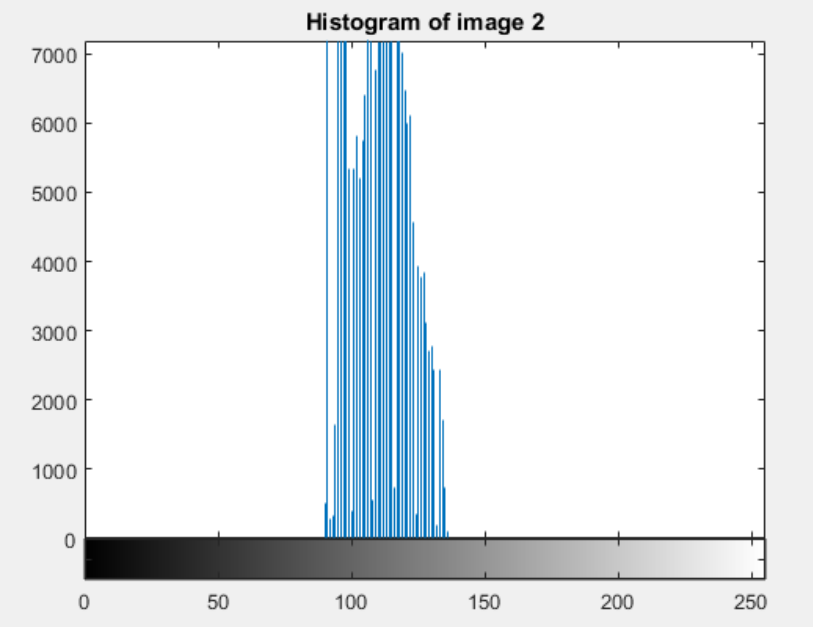
Histogram of grayscale image 1:



Gray Scale image 2:

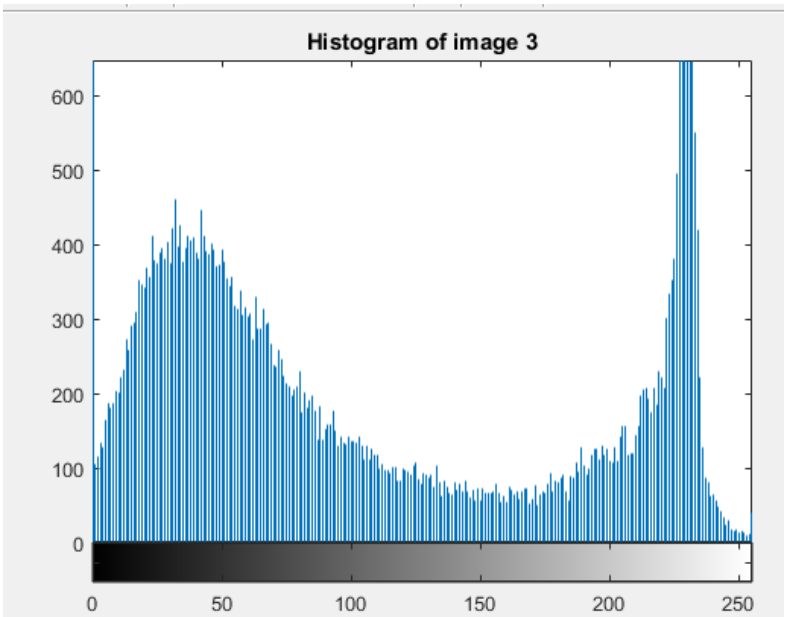


Histogram of image 2:



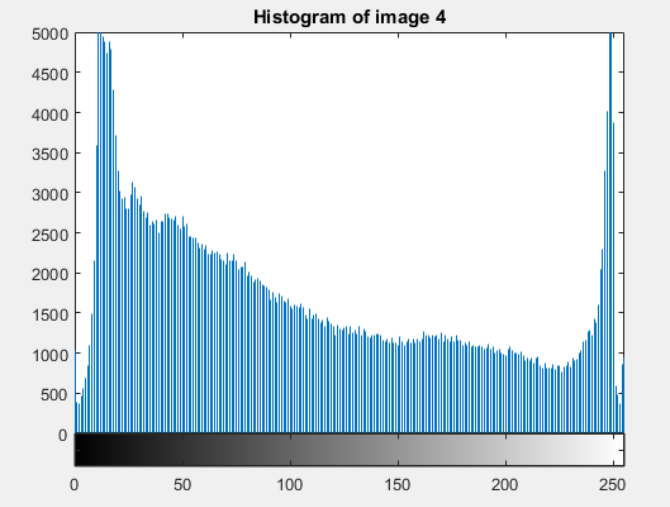
Gray Scale image 3:

Histogram of image 3:



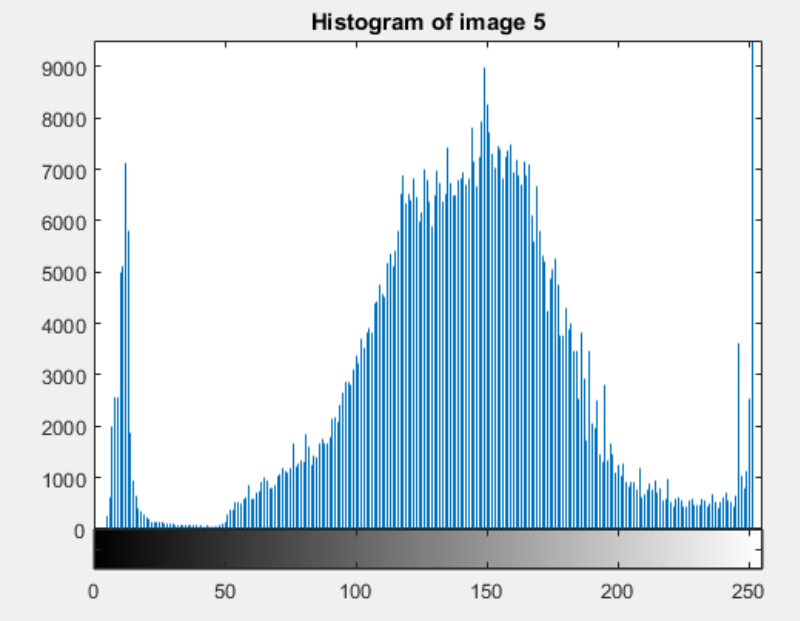
Gray Scale image 4:

Histogram of Image 4:



Gray Scale image 5:

Histogram of Image 5:

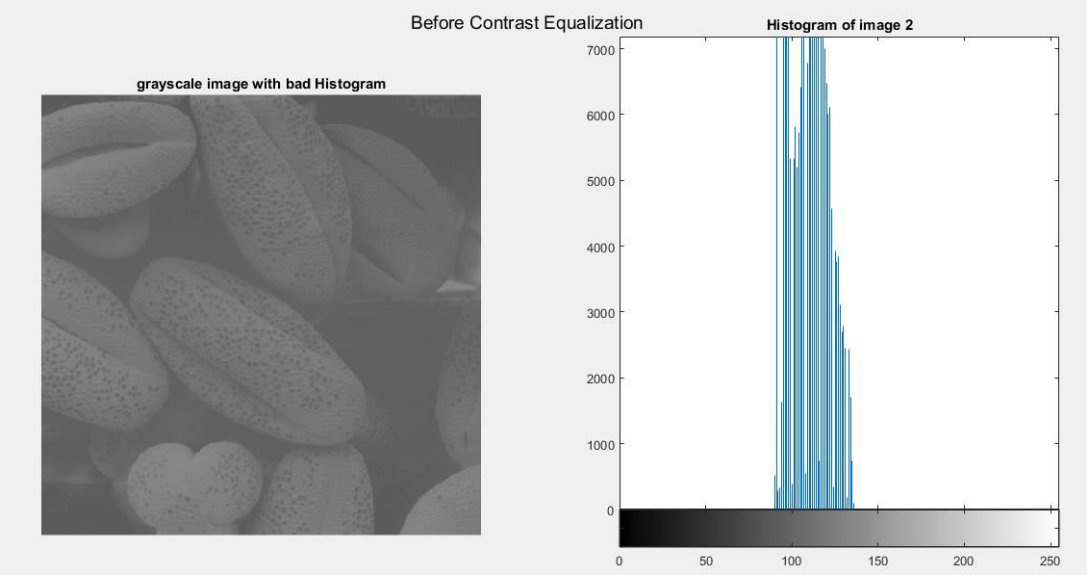


BAD HISTOGRAM EXPLANATION:

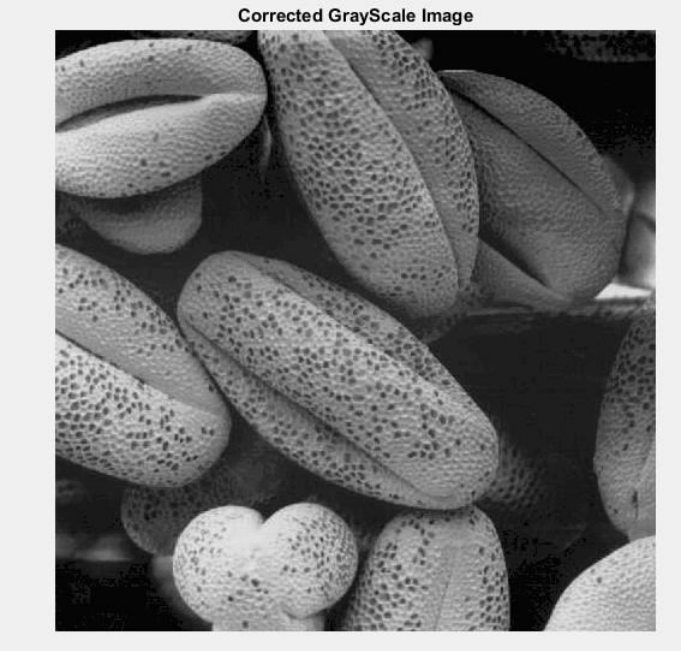
Histogram of **Image 2** can be defined as a bad histogram. The x-axis represent the color range of the grayscale images whereas the y axis represent the intensity of the specific color ranging from 0-255. Now for image 2 we can see that the histogram values are concentrated only in values between. **(90-140)**, which results in a low contrast picture.

P2.2:

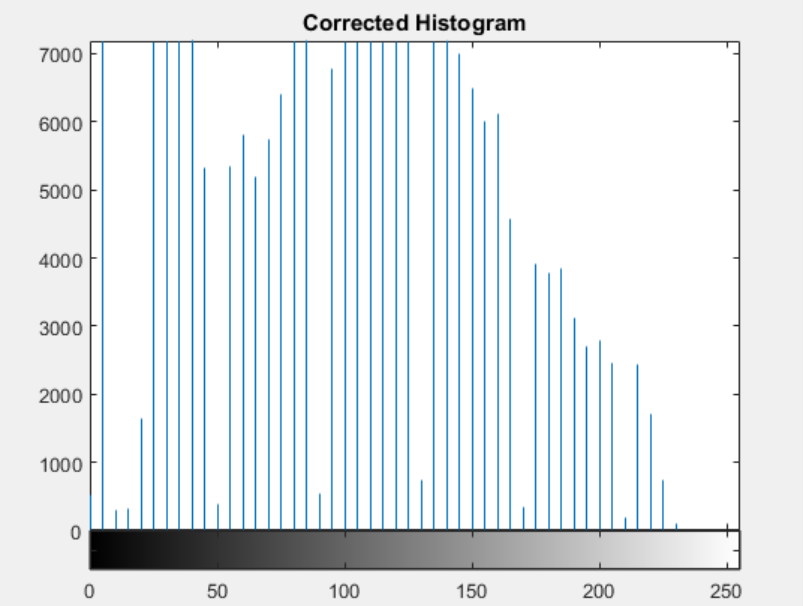
Displaying the image and it's histogram before contrast equalization:



Displaying the image after contrast equalization:



Corrected histogram of stretched image:

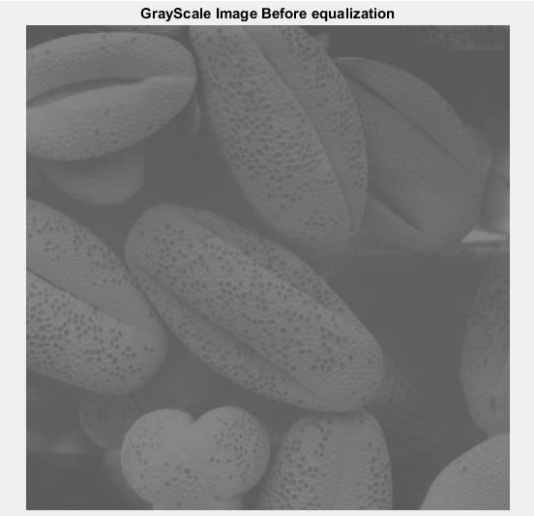


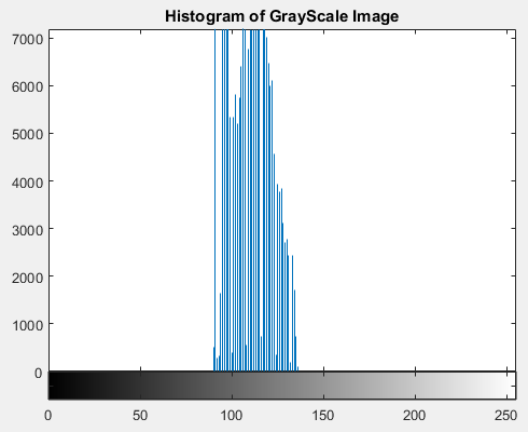
P2.3:

The code for probability calculation is written in MATLAB and attached with the email in a ZIP file.

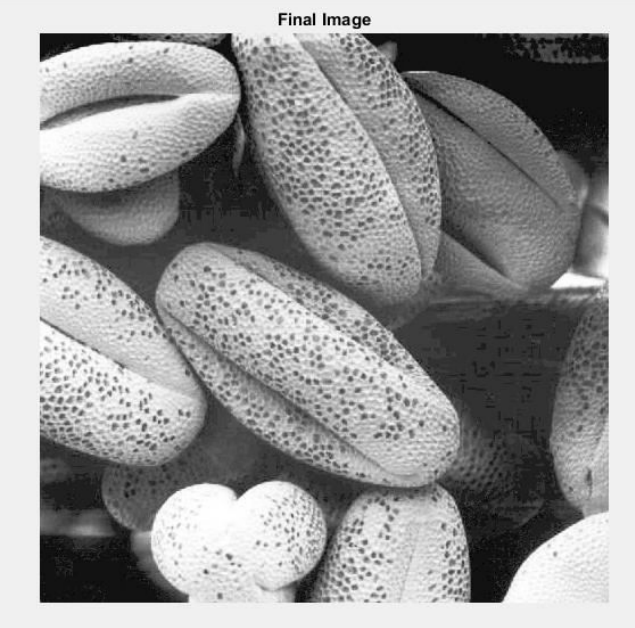
P2.4:

Using the probabilities found in part 3, we will find the cumulative probabilities and hence perform histogram equalization.

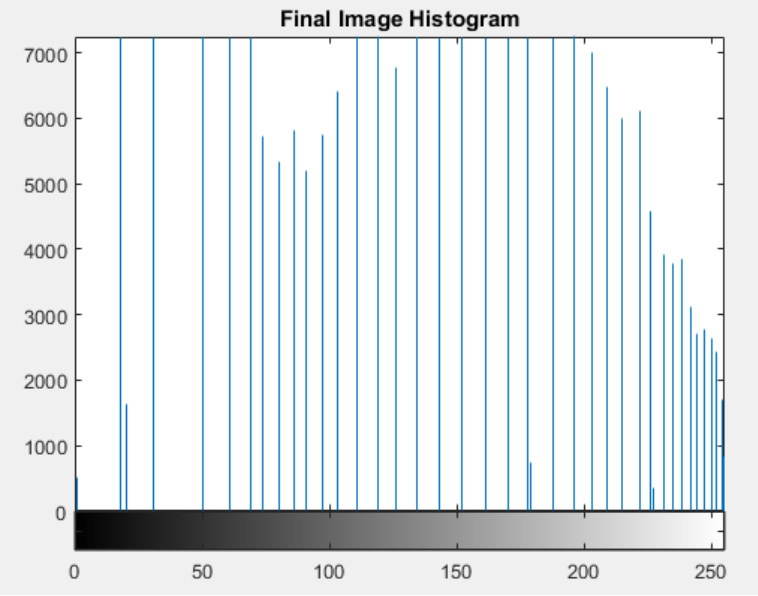




Final Image after histogram equalization:



Histogram after equalization:



P2.5:

Bay Area original Image:

Histogram of Original image:

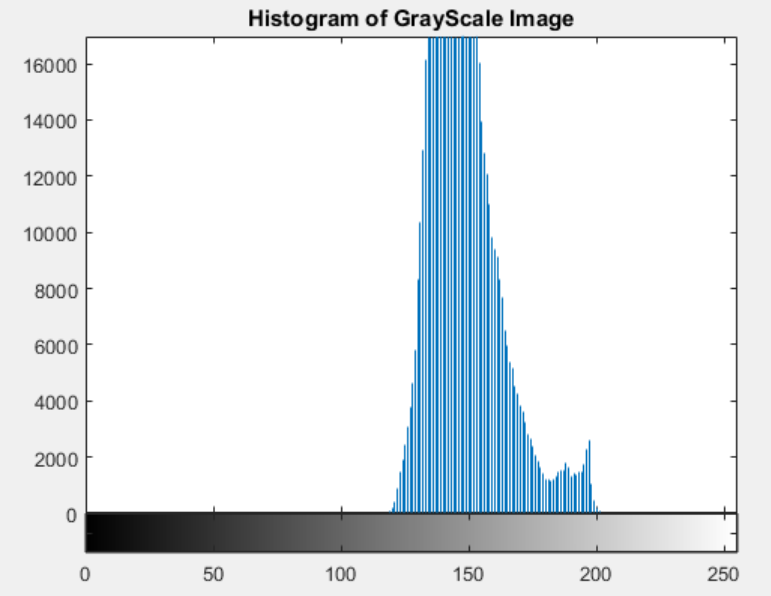
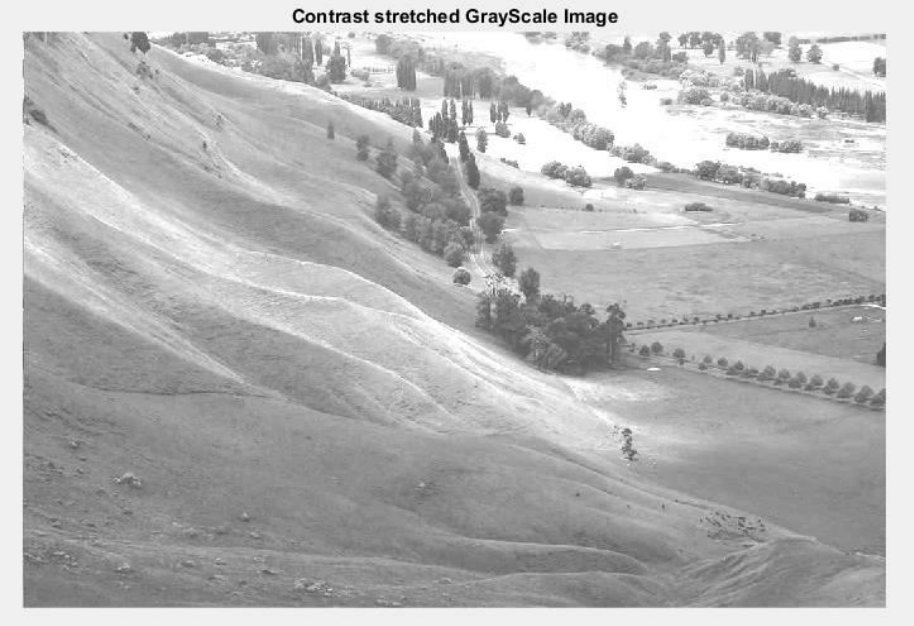


Image After contrast Stretching:



Histogram of Image after contrast Stretching:

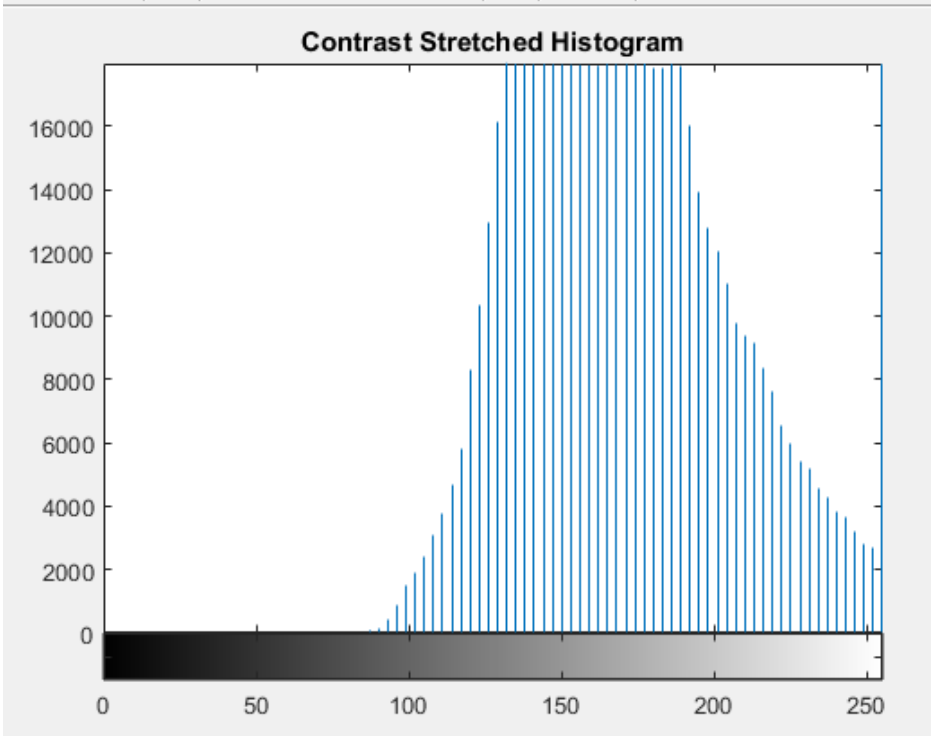
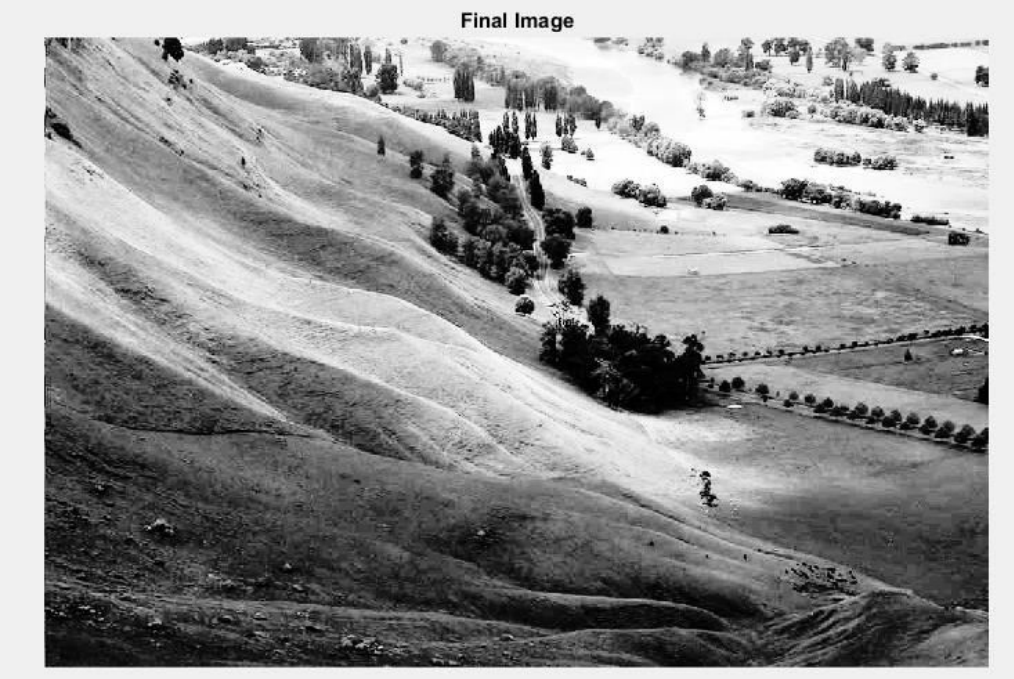


Image after Histogram Equalization:



Histogram after histogram equalization: