REPORT FOR QUESTION 2

FIles Included

1. myLinearContrastStretching.m

2. myHE.m

3. myHM.m

4. myAHE.m

5. myCLAHE.m

6. MyHistogram.m

7. myCLAHEhelp.m
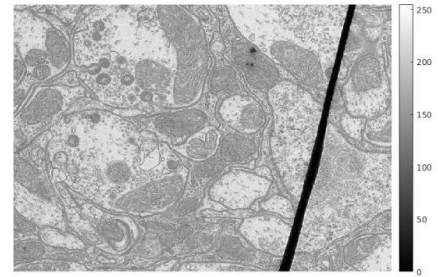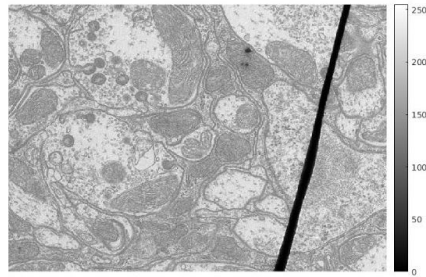
8. myAHEhelp.m

How To Run

Run myMainScript.m file from matlab.

OUTPUT

- **myLinearContrastStretching for barbara.png**

- **myLinearContrastStretching for TEM.png**
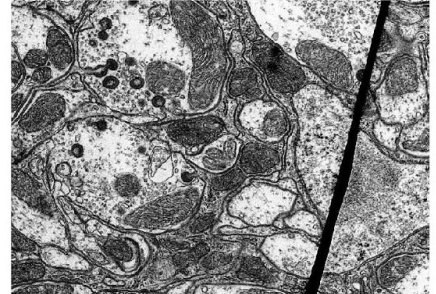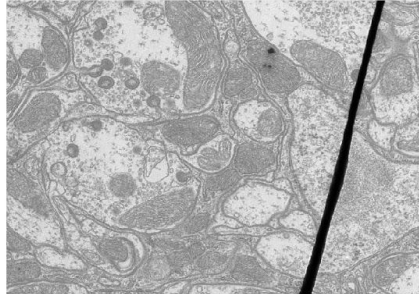

- **myLinearContrastStretching for canyon.png**

- **myLinearContrastStretching for church.png**

- **myHE for barbara.png**

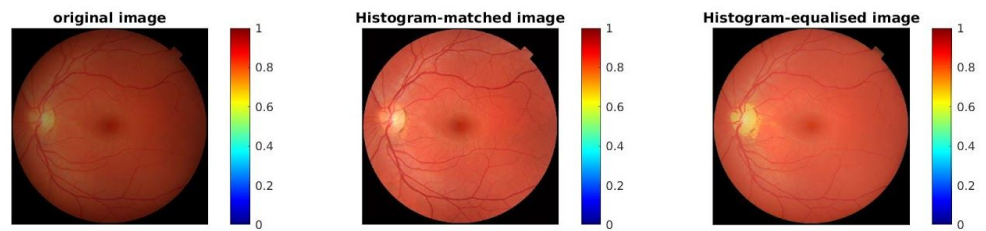

- **myHE for TEM.png**

- **myHE for canyon.png**

- **myHE for church.png**

- **myHM for retina.png with mask retinaMask.png and reference images retinaRef.png and reference mask retinaRefMask.png**

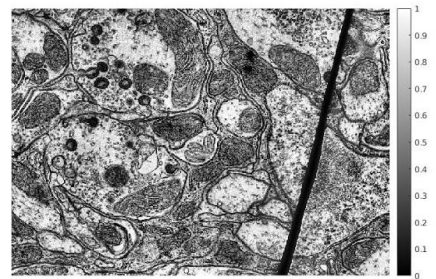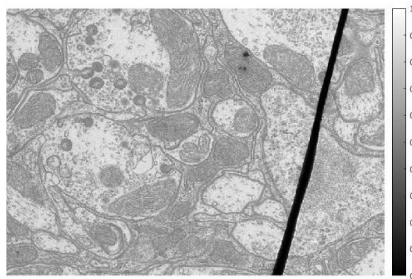- **myAHE for barbara.png optimised (Window size = 200)**

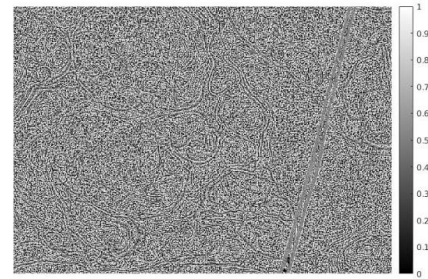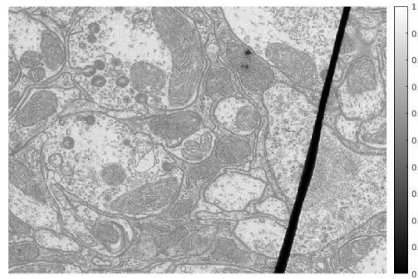- **myAHE for barbara.png(Window size = 5)**

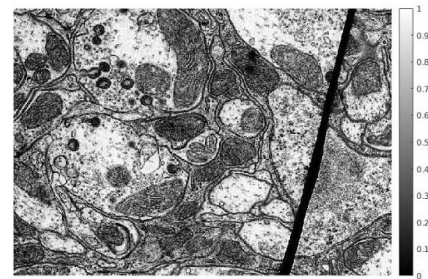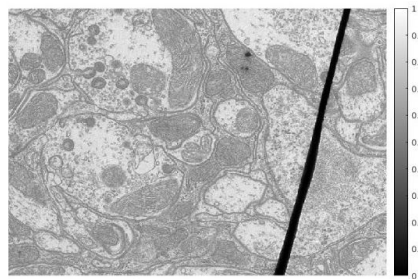- **myAHE for barbara.png(Window size = 500)**

- **myAHE for TEM.png optimised (Window size = 150)**

- **myAHE for TEM.png(Window size = 5)**
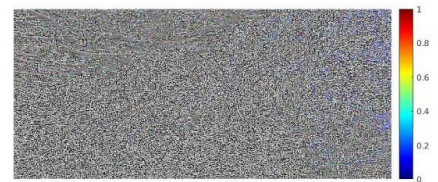

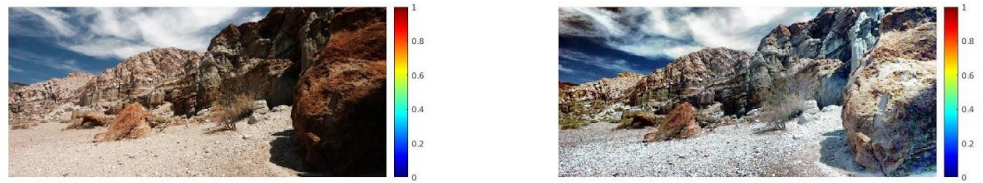- **myAHE for TEM.png(Window size = 500)**

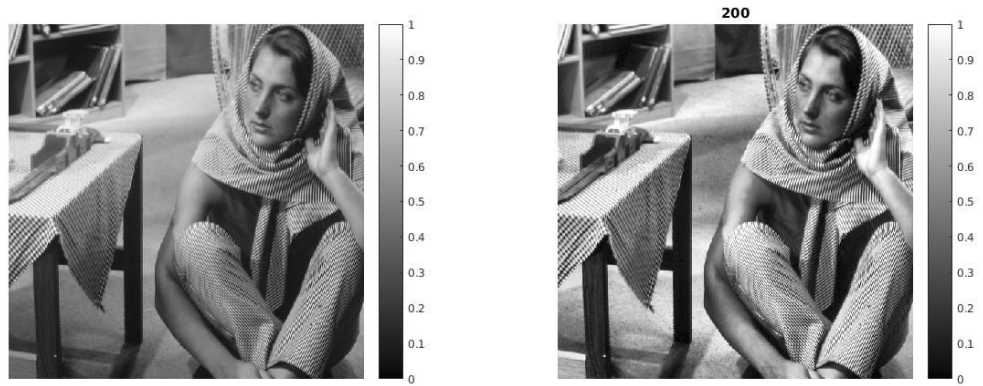- **myAHE for canyon.png(Window size = 200)**

- **myAHE for canyon.png(Window size = 3)**

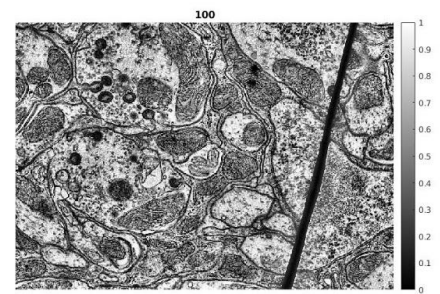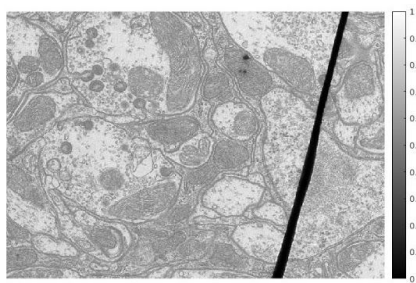- **myAHE for canyon.png(Window size = 300)**

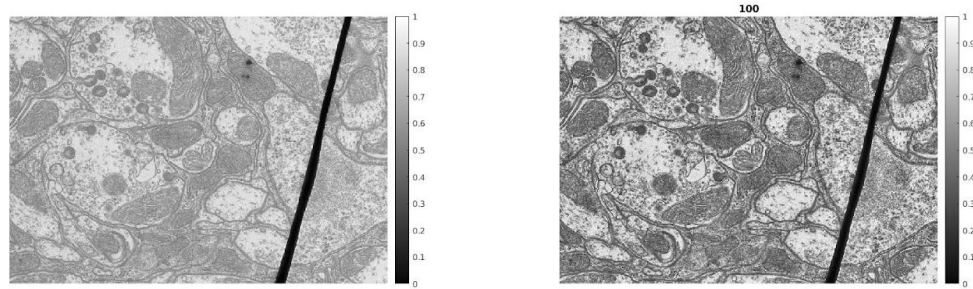- **myCLAHE for barbara with window size 200 and threshold parameter 0.01**

- **myCLAHE with same window size and threshold 0.005 for barbara**
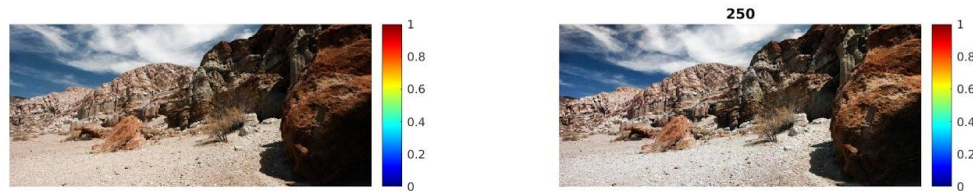
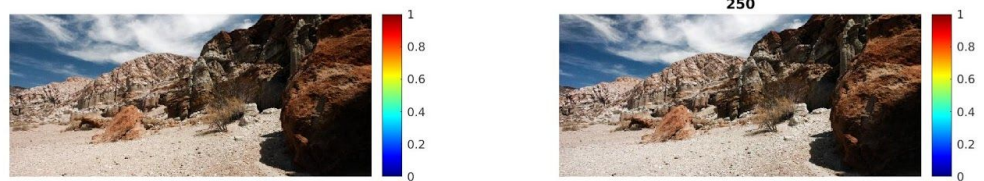**● myCLAHE for TEM with window size 100 and threshold value 0.01**

- **myCLAHE for TEM with same window size and threshold value 0.005**

- **myCLAHE for canyon with window size 250 and threshold value 0.003**

- **myCLAHE for canyon with same window size and threshold value 0.0015**

CONCLUSION

Q2_1. For fifth image:
Since min and max value of each component i.e. RGB here are 0 and 255 there isn't anything to stretch and hence same image.

Q2_2 For fifth image:
As it is clearly visible from output images of linear contrast and histogram equalization that HE is much better option than linear contrast. As linear contrast is much susceptible to outliers in intensities that is even if one of the pixels has 0 and 255 intensity value it won't work.

Q2_3 With respect to original image , the modified image has larger intensity at certain pixels than the original image which is darker.