

# Homework 2 CS 381/780 Image Processing

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## ORIGINAL IMAGES

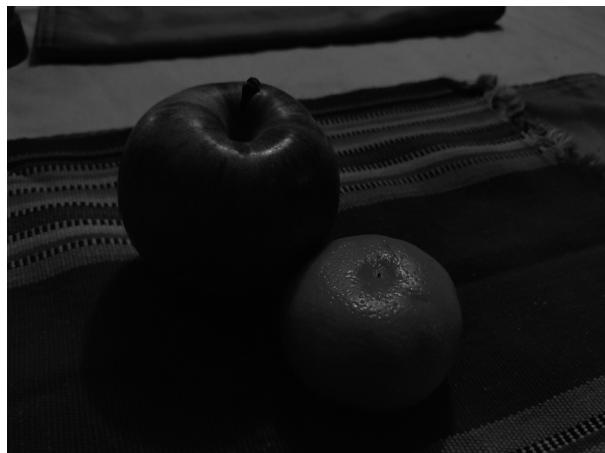


## QUESTION 1

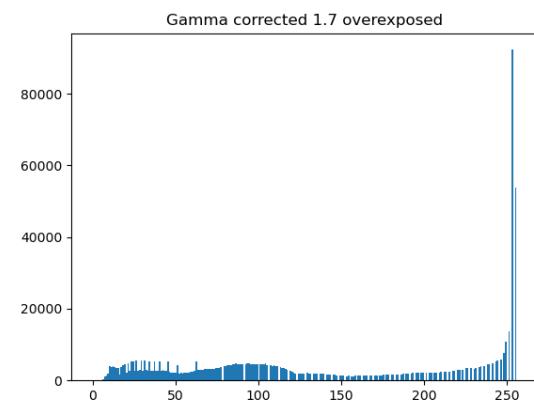
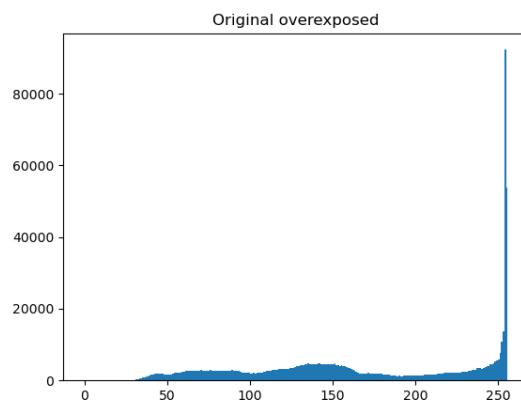
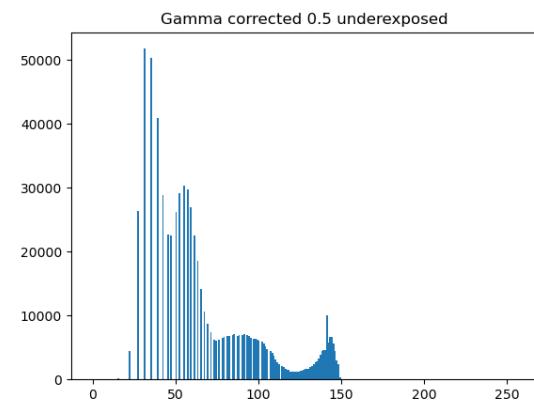
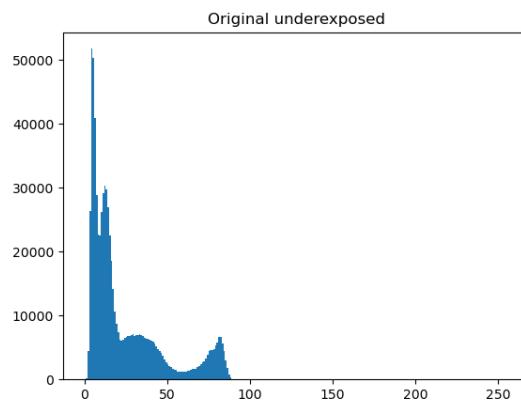
Original (left) vs Overexposed image corrected to 1.7 gamma (right)



Original (left) vs Underexposed image corrected to 0.5 gamma (right)



histograms



## QUESTION 2

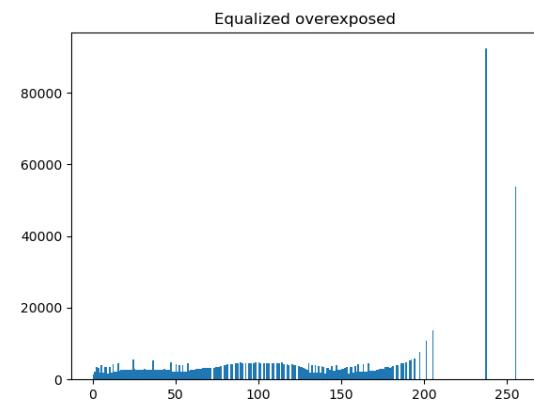
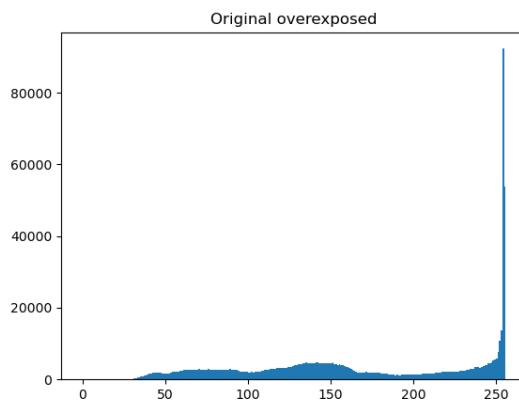
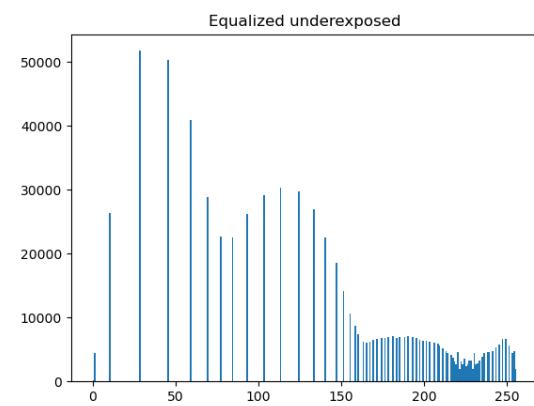
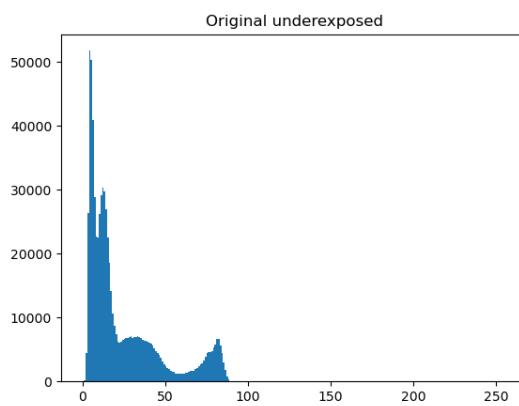
Original (left) vs Overexposed image equalized (right)



Original (left) vs Underexposed image equalized (right)

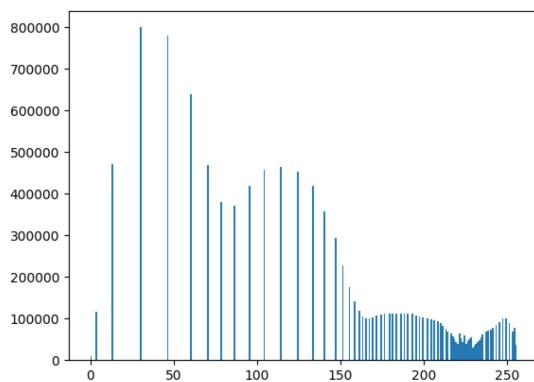


histograms

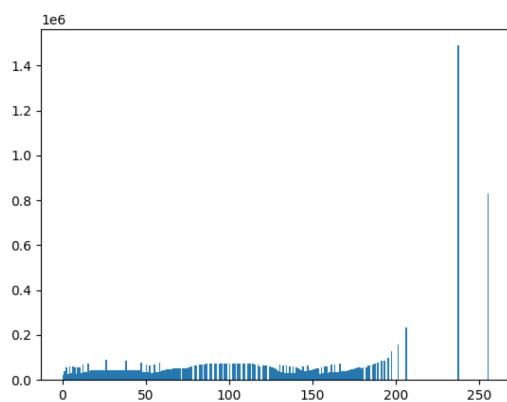


## QUESTION 3

Underexposed Image Histogram



Overexposed Image Histogram



Underexposed Image Equalized

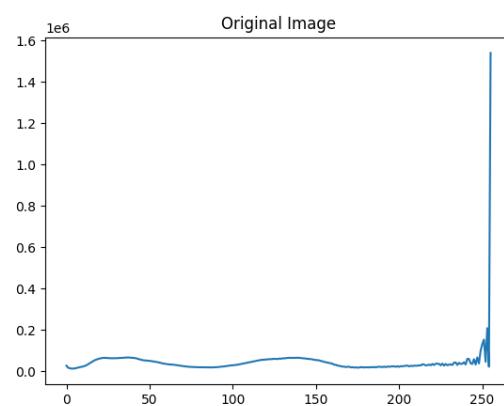


Overexposed Image Equalized

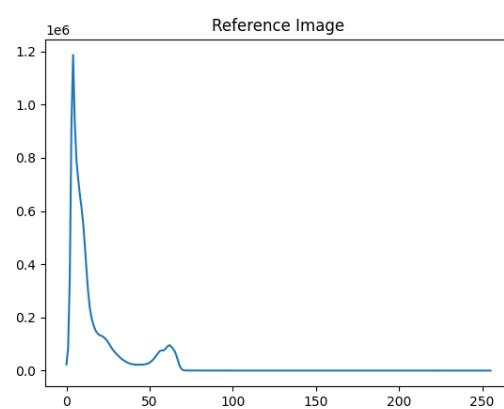
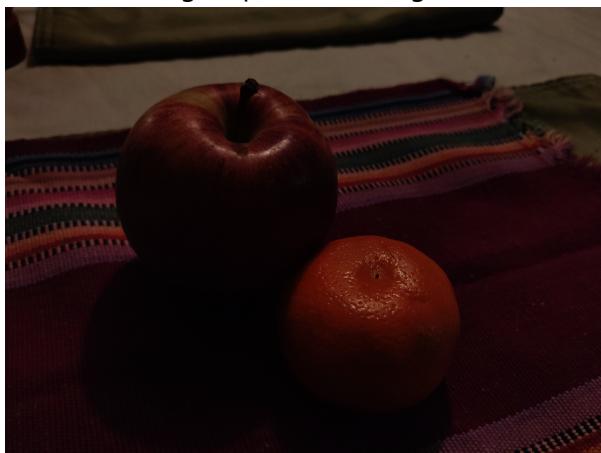


## QUESTION 4

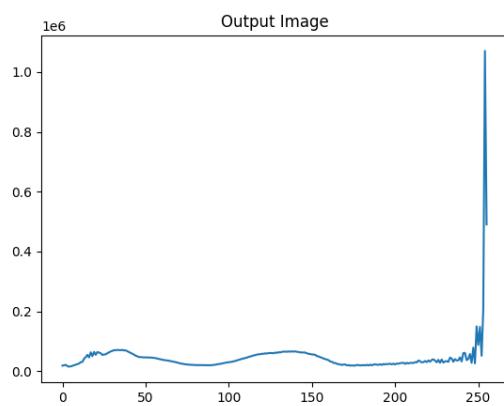
Original Image Input and Histogram



Reference Image Input and Histogram



## New Image Output and Histogram



## QUESTION 5

### Gaussian Kernel



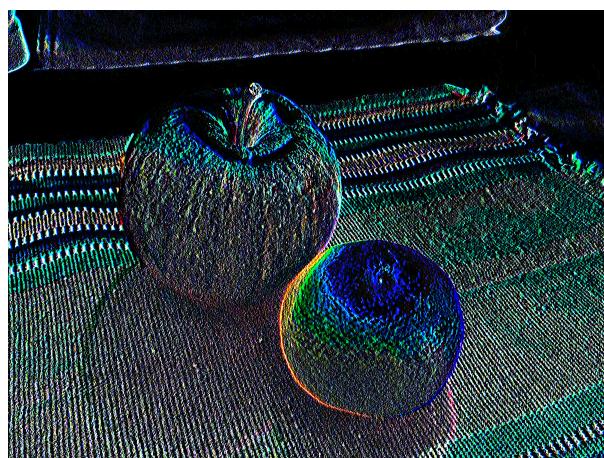
### Box Kernel



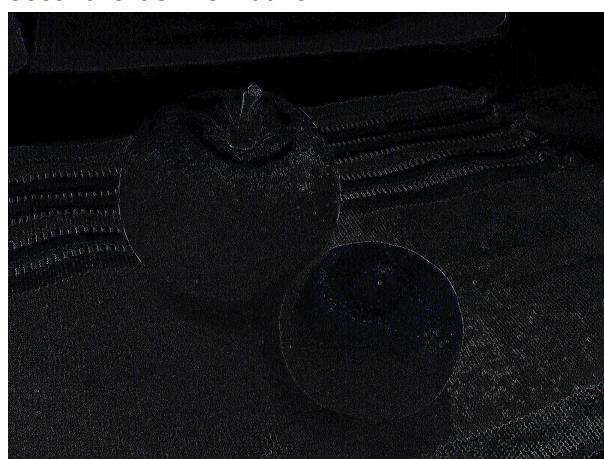
Robert Kernel



Sobel Kernel



Second-order Derivative



## Unsharp and Highboost Filtering

