

NIM. 1207070082

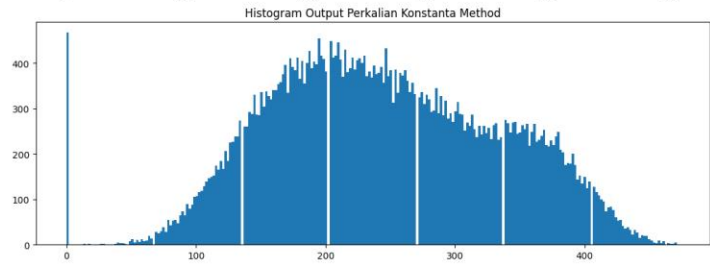
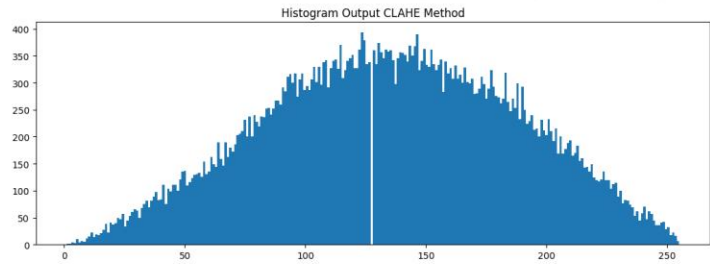
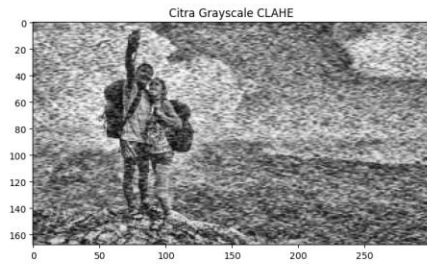
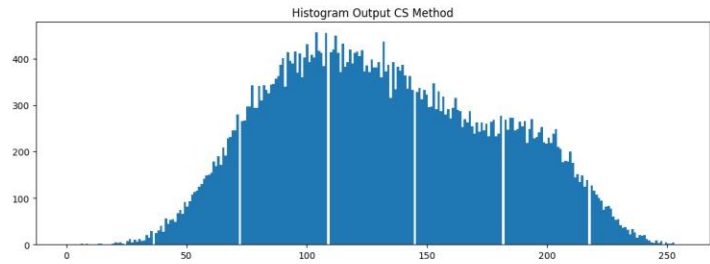
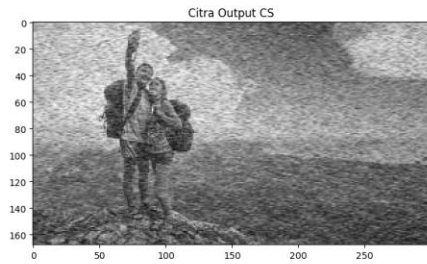
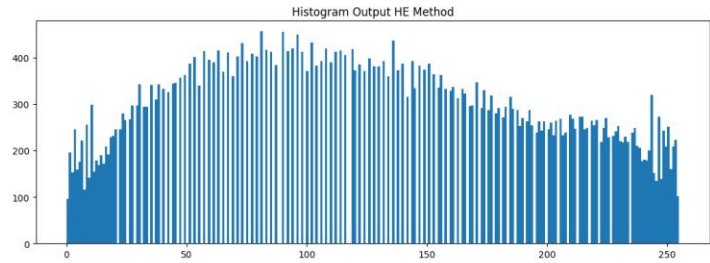
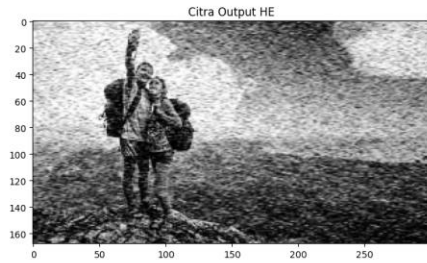
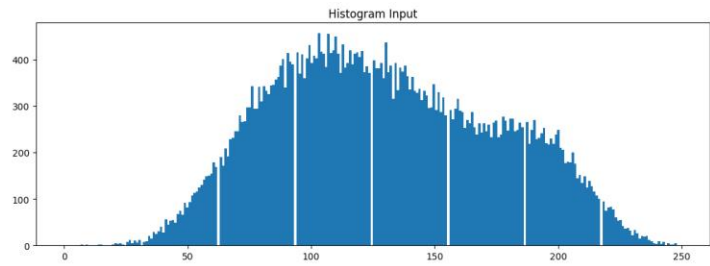
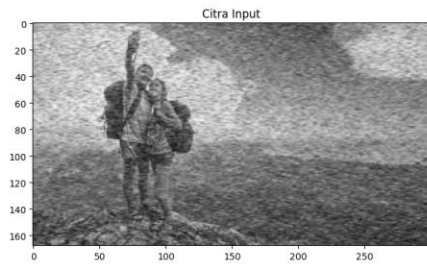
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Date: _____

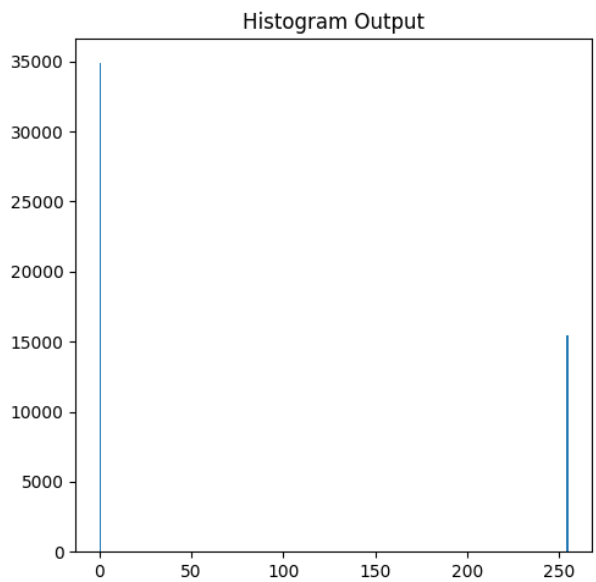
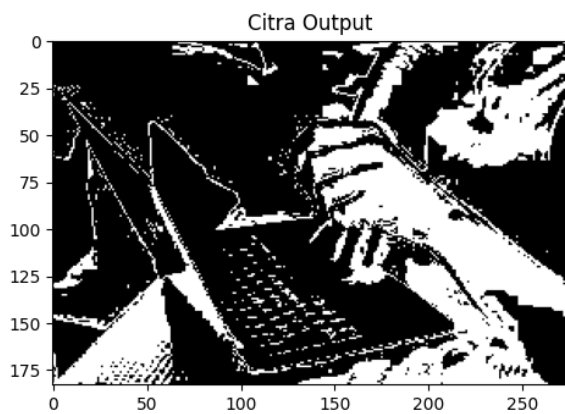
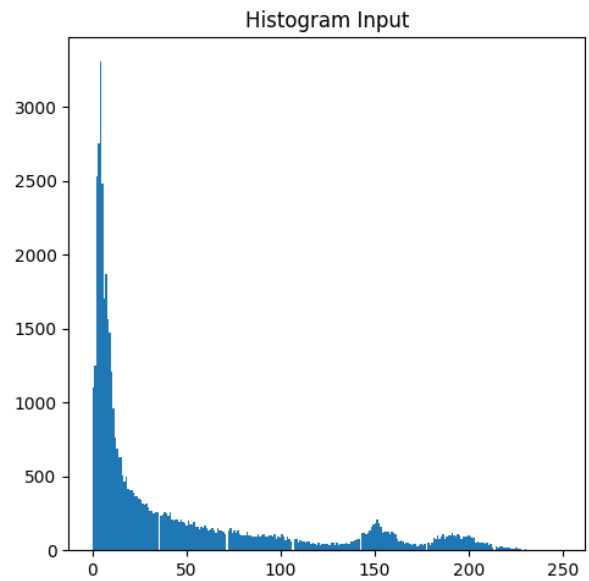
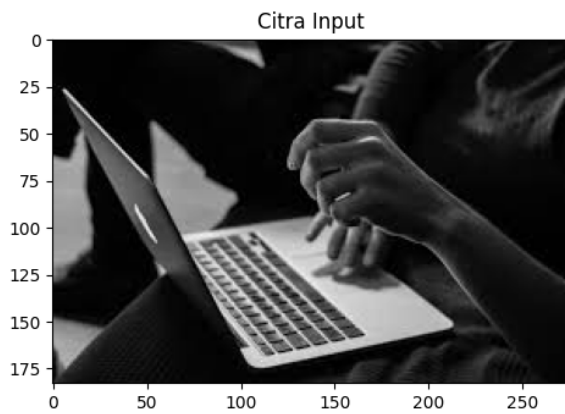
Tugas 1 PCD Najin Khoerul Syahirin
NIM. 1207070082

Konsep metode clahe dan implementasinya
metode CLAHE (Contrast Limited Adaptive Histogram Equalization)
adalah sebuah teknik pengolahan citra untuk meningkatkan ~~titik~~
kontras dalam gambar. CLAHE bekerja dengan memperoleh histogram
dari gambar dan melakukan histogram Equalization pada setiap bagian
gambar tersebut secara adaptive. Hal ini memungkinkan peningkatan kontras yang
optimal dalam berbagai area dengan tingkat kecerahan yang berbeda.

Implementasi memperbaiki kualitas citra x-ray yang mengalami noise.
memperjelas objek pantulan kaca

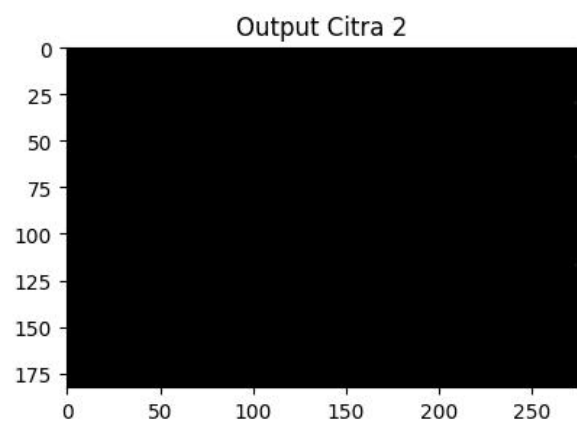
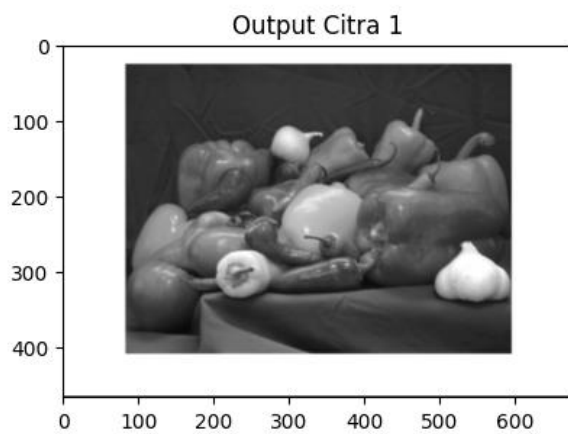
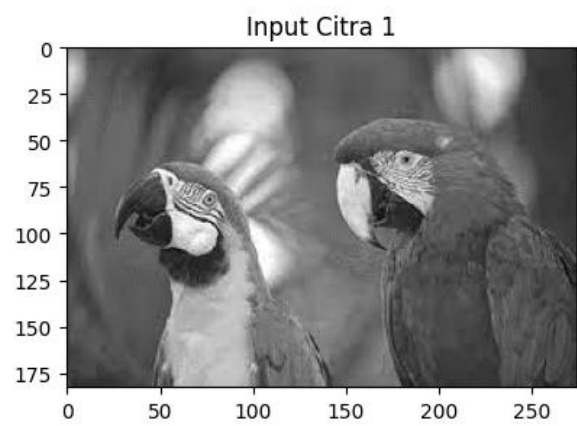
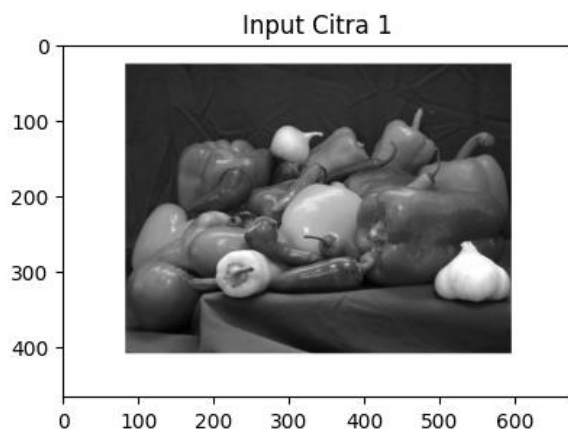
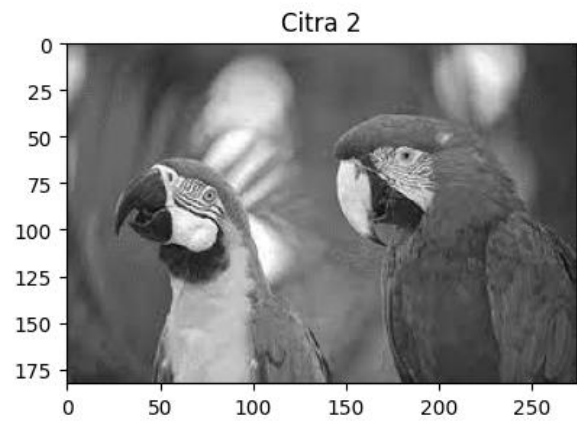
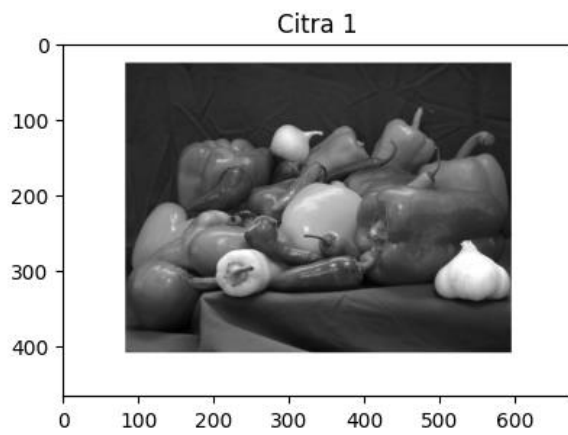
no 1, jika nilai threshold semakin tinggi maka pixel yang
di bawahnya diubah jadi putih sehingga semakin jelas jika nilai tinggi
pas. jika terlalu rendah gambar jadi putih sebaliknya
gambar jadi hitam.





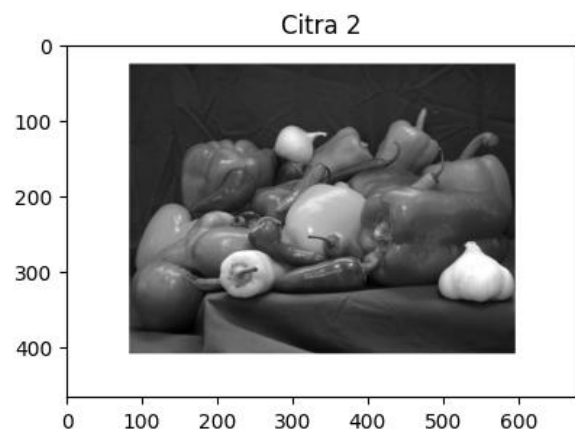
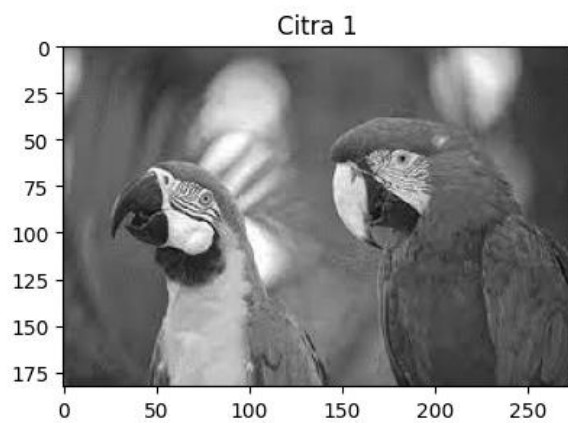
```
Shape citra 1 : (467, 678)
Shape citra 2 : (183, 275)
(467, 678)
Shape copy citra 1 : (467, 678)
Shape output citra 1 : (467, 678)
m1 : 467
n1 : 678

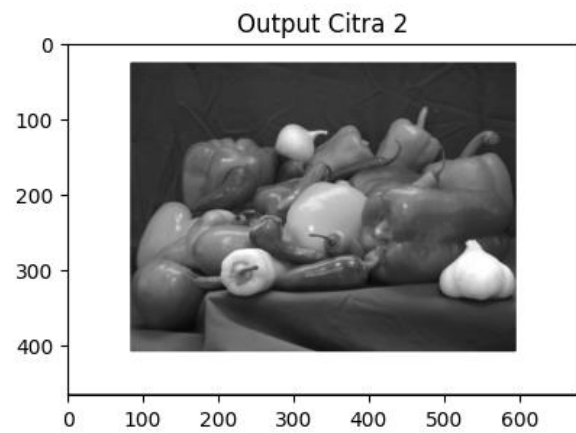
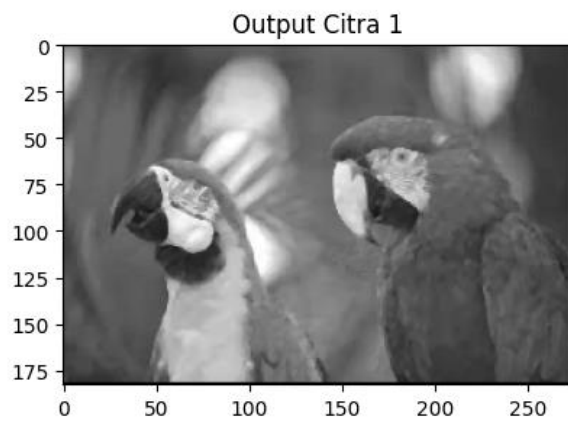
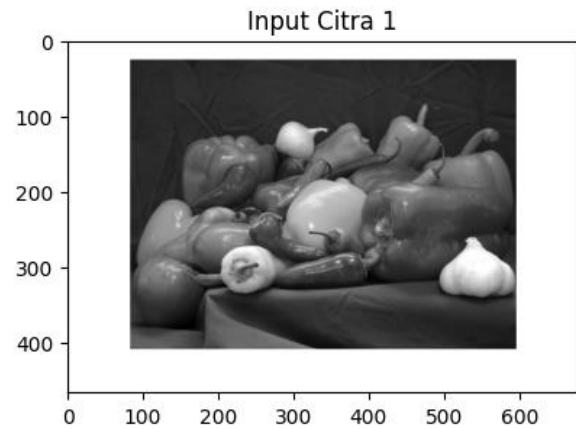
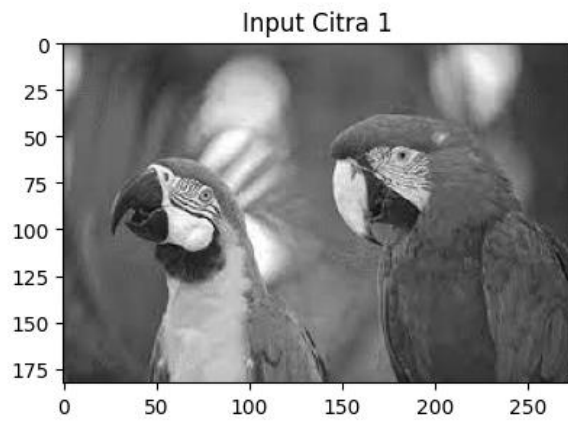
Shape copy citra 2 : (183, 275)
Shape output citra 3 : (183, 275)
m2 : 183
n2 : 275
```



```
Shape citra 1 : (183, 275)
Shape citra 1 : (467, 678)
Shape copy citra 1 : (183, 275)
Shape output citra 1 : (183, 275)
m1 : 183
n1 : 275

Shape copy citra 2 : (467, 678)
Shape output citra 3 : (467, 678)
m2 : 467
n2 : 678
```

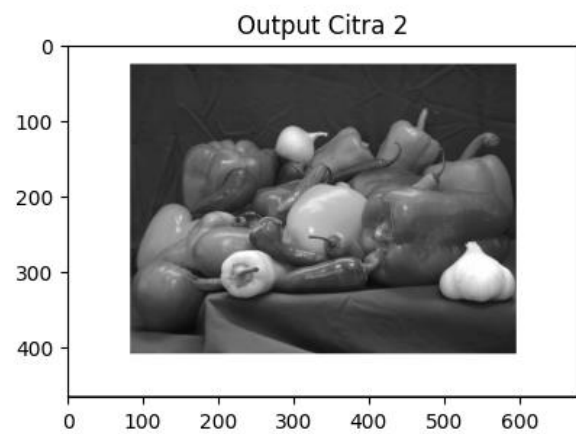
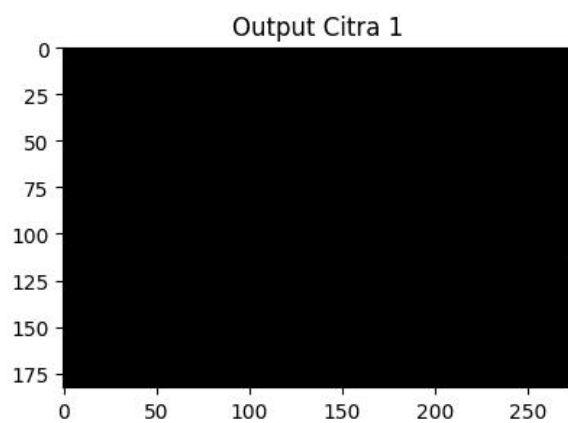
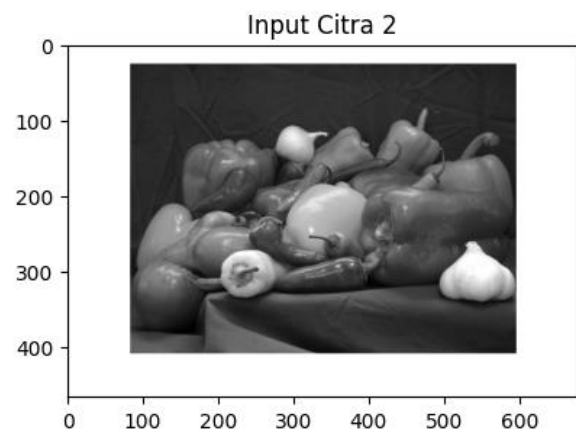
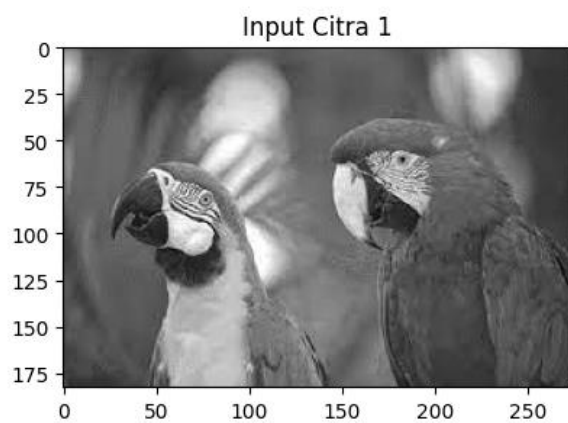
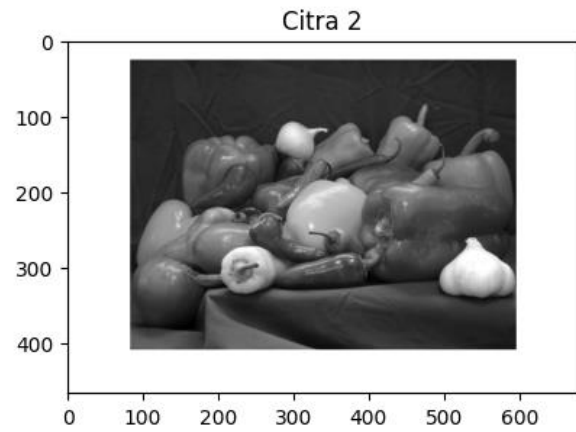
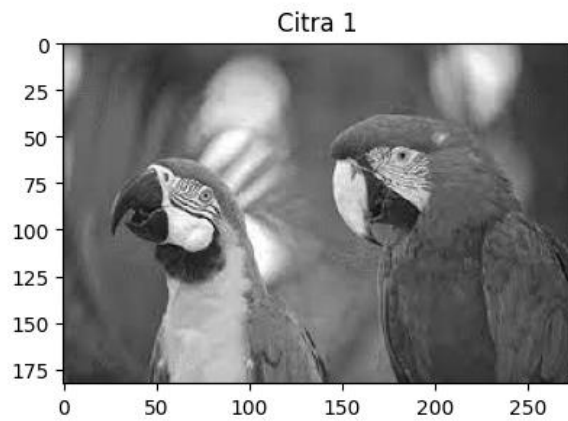




```
Shape citra 1 : (183, 275)
Shape citra 1 : (467, 678)
Shape copy citra 1 : (183, 275)
Shape output citra 1 : (183, 275)
m1 : 183
n1 : 275

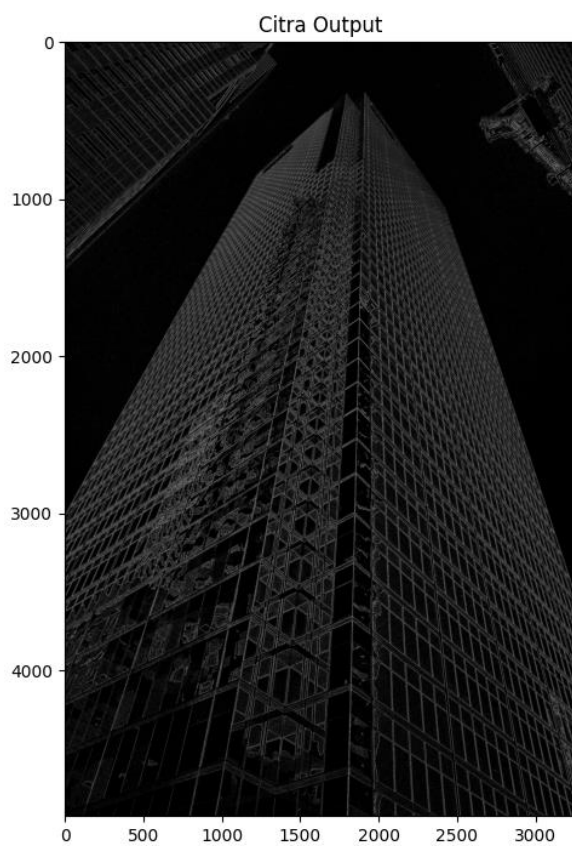
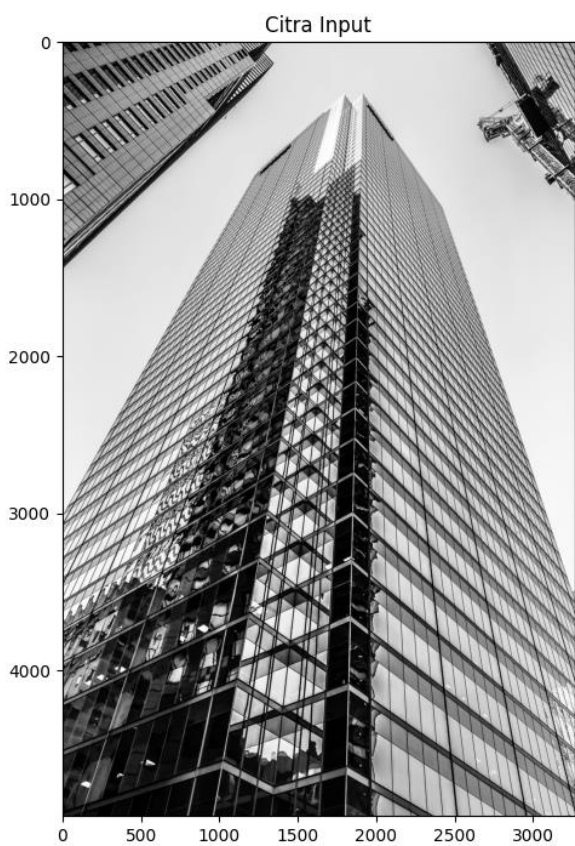
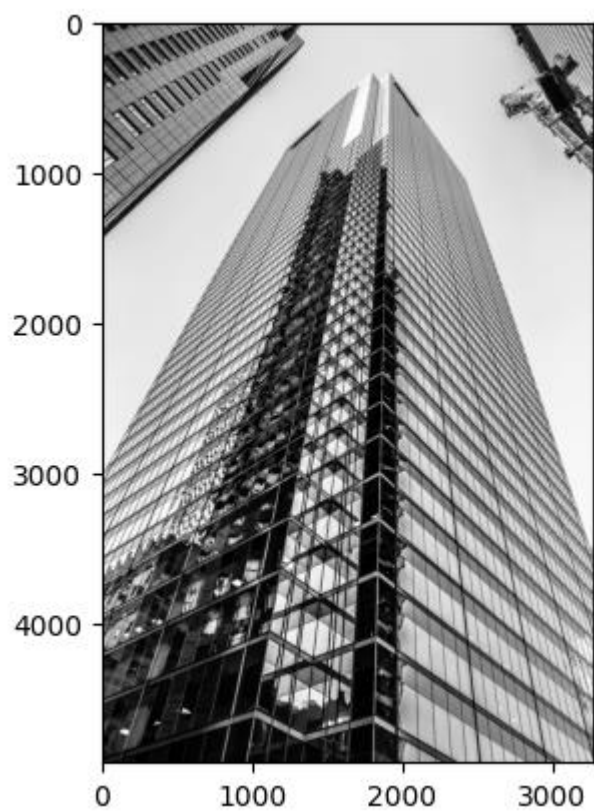
Shape copy citra 2 : (467, 678)
Shape output citra 3 : (467, 678)
m2 : 467
n2 : 678

Text(0.5, 1.0, 'Output Citra 2')
```

```
(4928, 3264)
```

```
Text(0.5, 1.0, 'Citra Output')
```




```
[[0.04 0.04 0.04 0.04 0.04]
 [0.04 0.04 0.04 0.04 0.04]
 [0.04 0.04 0.04 0.04 0.04]
 [0.04 0.04 0.04 0.04 0.04]
 [0.04 0.04 0.04 0.04 0.04]]
```

Original

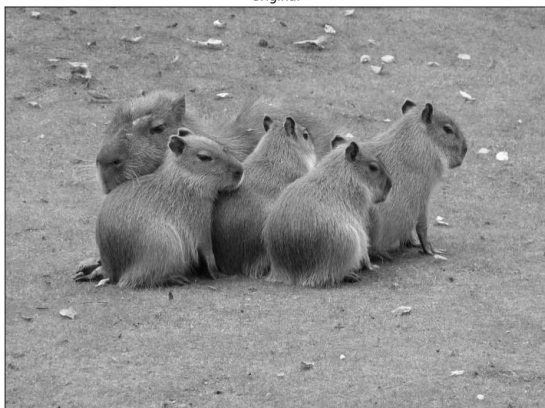


Averaging

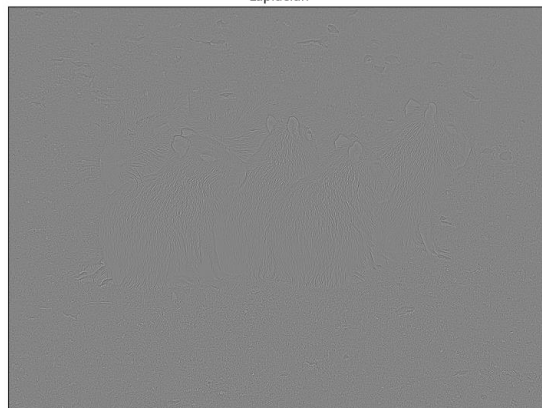


```
[[0.04 0.04 0.04]
 [0.04 0.08 0.04]
 [0.04 0.04 0.04]]
```

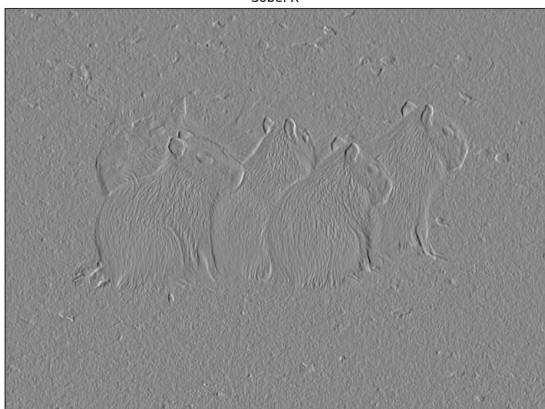
Original



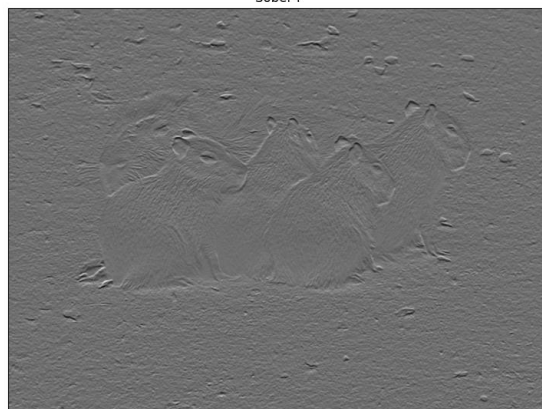
Laplacian



Sobel X



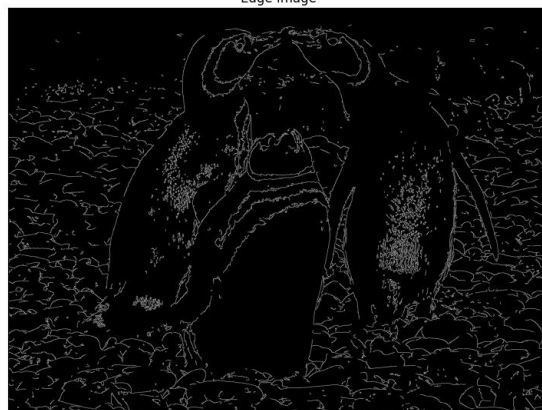
Sobel Y



Original Image



Edge Image



Gambar asli



BINARY



BINARY_INV



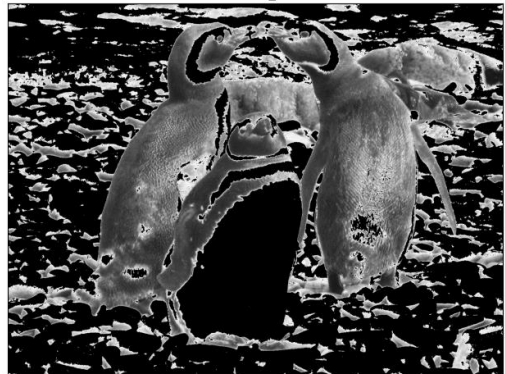
TRUNC



TOZERO



TOZERO_INV



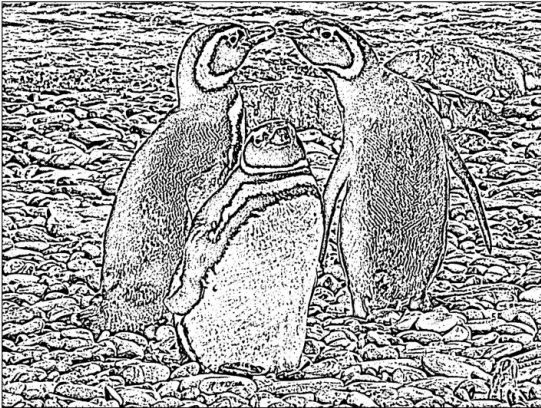
Original Image



Global Thresholding ($\tau = 127$)



Adaptive Mean Thresholding



Adaptive Gaussian Thresholding

