**Homework 3**

Histogram Equalization

Programming language: Python 3.7.3

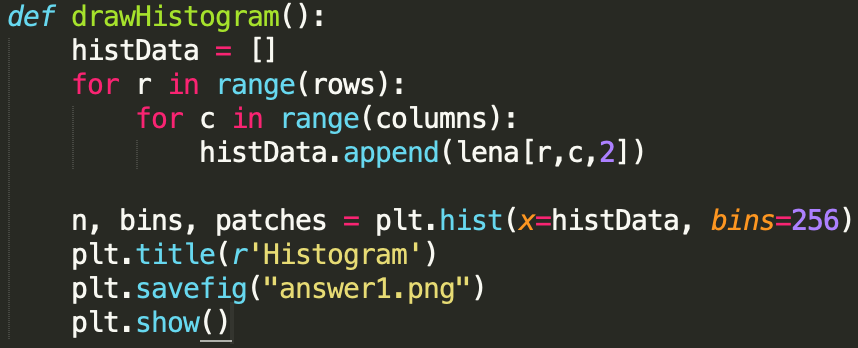
Library used for this homework:

* Numpy
* OpenCv: to read and write the image file

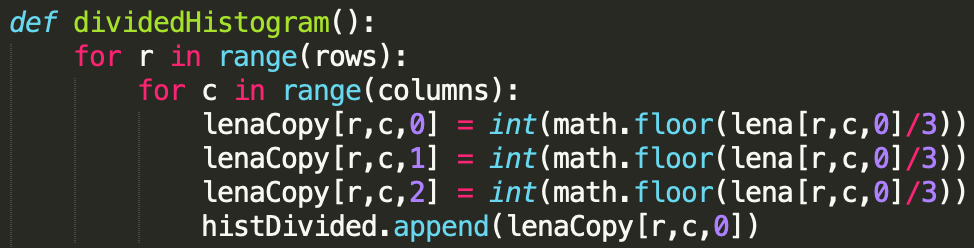
Image info: lena.bmp [512(width),512(height),3(RGB)]

**Code explanation:**

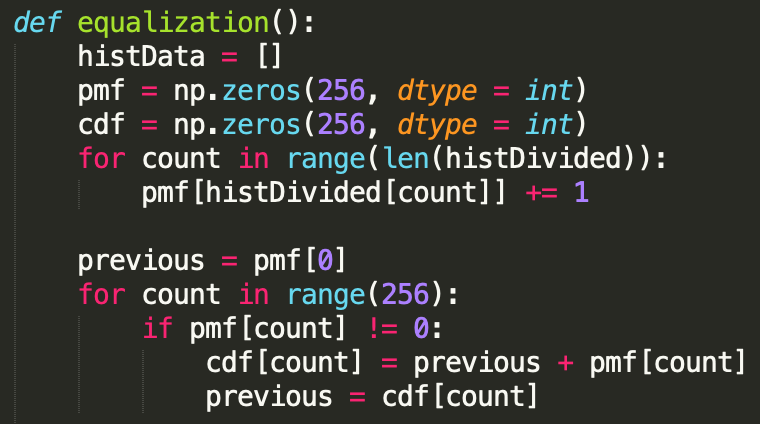
1. Draw a histogram with the brightness value of all pixel.

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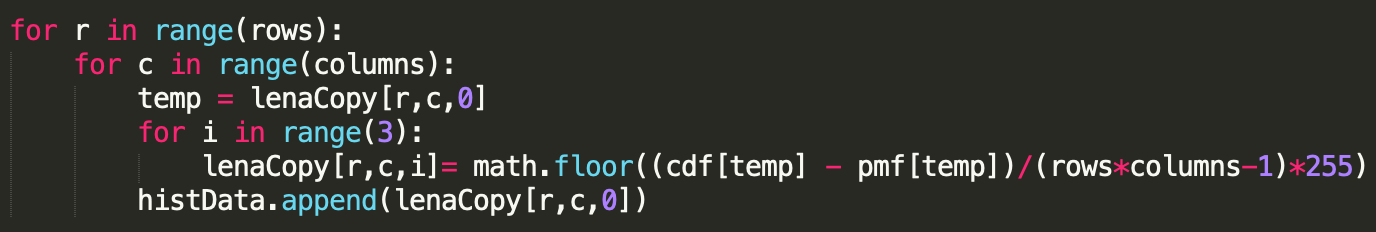
(b) Divided all the pixels’ brightness value by 3.

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(C) Calculate the PMF and CDF (cumulative distribution function) value of the darken image from part b.<https://en.wikipedia.org/wiki/Histogram_equalization>



Calculate the normalized value of each pixel using the previous.

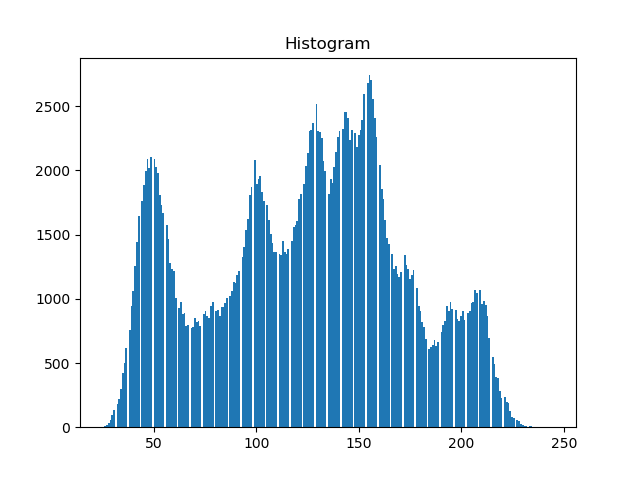


**Result:**

(a-1)



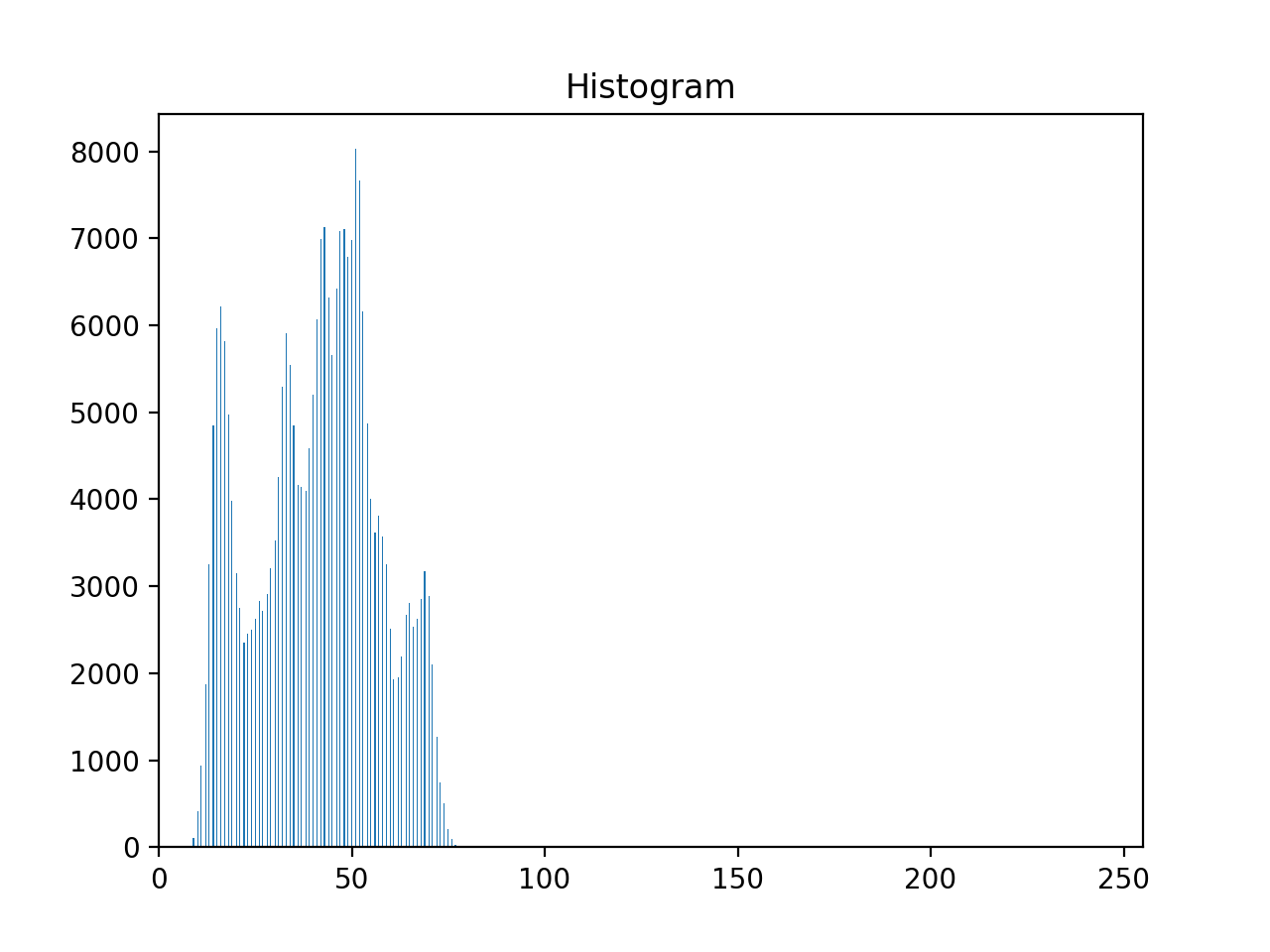
(a-2)



(b-1)



(b-2)



(c-1)



(c-2)

