Computer Vision HW#3

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Generating the equalized image

In this assignment, I was using python package `skimage` to read the image of lena `lena.bmp` as a 2D-list.

And then to find the original distribution for the grey value, I traversed the whole image by for loop and record the distribution in a 1D-list `pixel_count`.

After that, I wrote a function to generate the equalized grey value, `transform()`, which will return a 1D-list with equalized grey value according to the cummulative formula $s_k = 255\Sigma_0^k \frac{n_j}{n}$. Hence, I got a equalized grey value list, `s`.

Last , I change each pixel in the image, die to the equalized grey value I got.

After all the works above, below is my image after equalization `len_equalized.png`

Plotting the Histogram

Simarlarily, I traversed the equalized image and wrote down the distribution in a 1D-list.

As for drawing histogram, I was using `matplotlib.pyplot` to help myself gernerate the bar plot `equalized_histogram.png` according to the distribution recorded by that 1D-list.