

REPORT

Coding Description:

The code is straightforward implementation of linear scaling and histogram equalization through the transformation cycle using standard formulae to change image through color spaces.

Images used to test are available in source folder.

Results: CV_1.py

Sample results for the image is available in source folder are placed in q1_sample. For the window of w1, h1, w2, h2 as 0.2,0.1,0.8,0.5(always w2>w1 and h2>h1), the output results named as output.jpg are nearly identical but slightly brighter than input images as L value has been increased.

Results: CV_2.py

Sample results for the image is available in source folder in q2_sample. The histogram equalization is quite evident from the input and output images, look balanced in their distribution of colors compared to input images. The output sample image is saved as output.jpg.

For an image 'check.jpg' the output image introduces gray pixel which isn't needed and makes the image look bad. Again, image with for many series of colors arranged, the output doesn't look good because the distribution of colors stops it from looking good.

Run Code:

Q1: cv_1.py and Q2: cv_2.py.

Terminal-> Python 3.x and have OpenCV installed and run similar commands:

```
Python cv_1.py 0.1 0.2 0.8 0.5 fruits.jpg output.jpg
```

```
Python cv_2.py 0.2 0.3 0.8 0.5 fruits.jpg output.jpg
```

You may now see the output files saved in your destination folder. You may also see the matrix values of output images on terminal.

Below is the sample input image followed by output image:

Output image looks similar but slightly illuminated by 'L' value.

Input image:



Output image:

