Pattern Recognition –HW#1

About the Assignment

The main aim of the assignment is to gain some fundamental knowledge about image processing on Python. Assuming that you are given a sample cat image as shown in Fig. 1.

Fig. 1: Original image.

Task:

The original image is in the form of hxwx3 format. At the end, you have to generate an image that looks like to below output.

Fig. 2: Output image.

As you can see that, the original image is divided into four quadrants.

* The top left quadrant is the original image
* The top right quadrant is the Green image,
* The bottom left quadrant is the Value image,
* The bottom right quadrant is the Hue image,

To get the Value image, you should convert RGB image to HSV image and take the Value channel (You can use cv2.COLOR_RGB2HSV).
To get the Hue image, you should convert RGB image to HLS image and take the Hue channel. (You can use cv2.COLOR_RGB2HLS).

To realize this, you should set Green, Value and Hue channel with 255, in a separate way. In an example; if you set **I(:,:,1)=255**; then it means that the green channel would be dominant among others. You should resize the original image, with ratio of 0.5. Then, convert to HSV and HLS formats. Finally, combine them as a single image that given as output image in Fig. 2. Note that, the size of output and original cat images are equal.

To save image with following code:

```
filename = 'savedCatImage.jpg'
cv2.imwrite(filename, img)
```

Write your code in Python.
Don’t use any snipped code available online.
Don’t use any function available in python (like Drawing canvas, or cat method). Just assign image coordinates.
Your code have to be run on other images.

Send your code as zip.

For cat2 the output must be as follow