Homework 3 :

Task 1:

```
In [1]:
import os
import json
import cv2
import matplotlib.pyplot as plt
```

Task 1: Load Images and Metadata from MiniBAGLS dataset

```
In [2]:
dataset_path = "./Mini_BAGLS_dataset"
# storing metadata for each image
metadata_list = []

for i in range(100):
    metadata_file = os.path.join(dataset_path, f"{i}.meta")
    with open(metadata_file, 'r') as file:
        metadata = json.load(file)
        metadata_list.append(metadata)

#first5 metadata entries
metadata_list[:5]
```

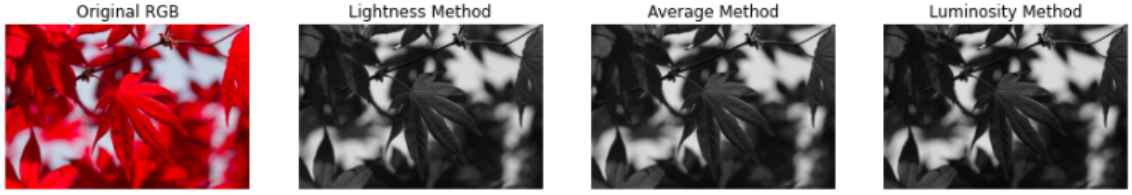
```
Out[2]: [{'Video Id': 37,
  'Camera': 'KayPentax HSV 9710 (Photron)',
  'Sampling rate (Hz)': 4000,
  'Video resolution (px, HxW)': [512, 256],
  'Color': False,
  'Endoscope orientation': '70°',
  'Endoscope application': 'oral',
  'Age range (yrs)': '20-30',
  'Subject sex': 'w',
  'Subject disorder status': 'healthy',
  'Segmenter': 0,
  'Post-processed': 1},
 {'Video Id': 277,
  'Camera': 'KayPentax HSV 9710 (Photron)',
  'Sampling rate (Hz): 4000,
```

Task 2:

```
plt.show()
```

RGB to grayscale for 1 image

Task 3:



Task 4:

Which method is better and why :

The illumination method is generally preferred because it captures the sensitivity of the human eye to different color modes, resulting in a perceptually accurate grayscale image

Harshvardhan Joshi, M.N. 23162173, IdM: og52yvov