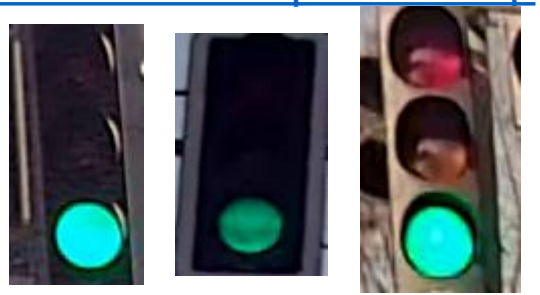
Trafic Lights 5p

- Create a program that will recognize traffic lights based on the colors.

- Let's assume two colors (green and red) - see attached template + dataset.

https://mrl.cs.vsb.cz/data/vyuka/zao/2025/02-cv-template-v1.zip



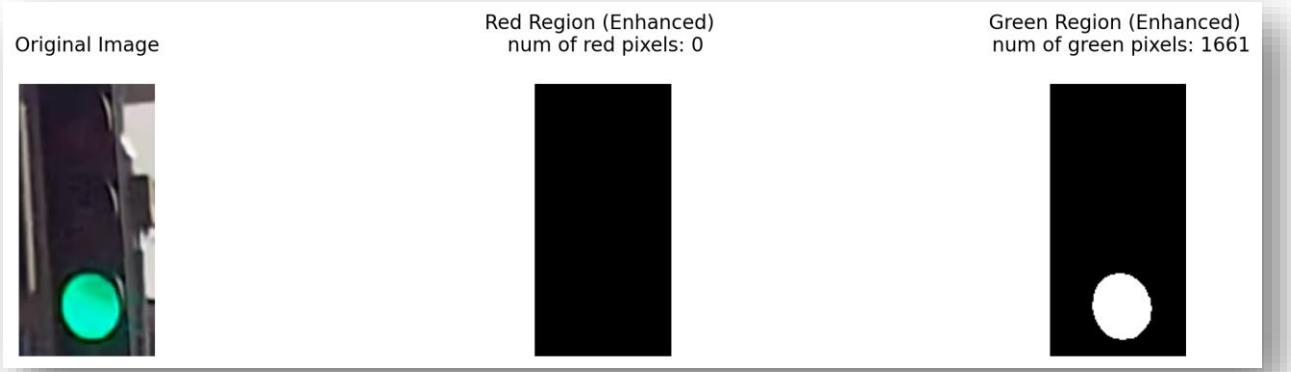
- The program will save the results in separate output directories based on the light colour (e.g. out-red/out-green).

- You can use combination of the techniques to solve the problem - for example: selecting a suitable colour model, thresholding (cv.inRange/cv.threshold), morphological operations:
https://docs.opencv.org/4.11.0/df/d9d/tutorial_py_colorspaces.html

- You can visualize the result using Matplotlib or OpenCV – **see next slide, for inspiration**.
- Try to calculate the resulting recognition accuracy.

Examples of outputs:

Green Light Input – Green Light Recognizer Output
save to "out-green" folder



Red Light Input – Red Light Recognizer Output
save to "out-red" folder

- **BONUS:**

- You can try to combine your traffic light **recognizer** with a traffic light **detector**:

https://mrl.cs.vsb.cz/data/vyuka/zao/2025/02-cv-template-v2-yolo.zip

Examples of results in that cases: