```matlab
I = imread("IMG_002.jpg");
gs = rgb2gray(I);
imshow(gs)


gsAdj = imadjust(gs);
imshowpair(gs, gsAdj, "montage");
imhist(gs);
imhist(gsAdj);
```

Thresholding:
```matlab
img = imread("IMG_005.jpg");
gs = rgb2gray(img);
imshow(gs)
BW = gs > 200;
imshow(BW)
```

Histogram:
```matlab
S1 = sum(BW, 1);
plot(S1)

S2 = sum(BW, 2);
plot(S2)
```

Filtering:
```matlab
I = imread("IMG_004.jpg");
gs = rgb2gray(I);

H1 = fspecial("sobel")
H2 = fspecial("average", 3)

gmsobel = imfilter(gs, H1);
imshowpair(gs, gmsobel, "montage")

average = imfilter(gs, H2);
imshowpair(gs, average, "montage")
```

Definition of Filters:

```matlab
I = imread("IMG_004.jpg");
gs = rgb2gray(I);
H1 = [1 1 1; 0 0 0; -1 -1 -1]
gs = imfilter(gs, H1, "replicate");
imshow(gs)
imshowpair(I, gs, "montage")


I = imread("IMG_004.jpg");
gs = rgb2gray(I);
H2 = [1 0 -1; 1 0 -1; 1 0 -1]
gs = imfilter(gs, H2, "replicate");
imshow(gs)
imshowpair(I, gs, "montage")
```

https://github.com/LucMarechal/JFWM2025/