Assignment 1: Filtering and edge detection
Due time: 2 weeks (March 8th, 2023 11:59 pm)

Given standard images (grayscale and color)

A) Tasks to implement

1- Add additive noise to the image. Ahmed Mahmoud

- For example: Uniform, Gaussian and salt & pepper noise.

2- Filter the noisy image using the following low pass filters. Ahmed Mahmoud

-Average, Gaussian and median filters.

3- Detect edges in the image using the following masks Rawan

-Sobel , Roberts , Prewitt and Canny edge detectors.

4- Draw histogram and distribution curve. Eman

5- Equalize the image. Rawan

6- Normalize the image. Rawan

7- Local and global thresholding. AlDeeb

8- Transformation from color image to gray scale image and plot of R, G, and B histograms with its distribution function (cumulative curve that you use it for mapping and histogram equalization). Eman

9- Frequency domain filters (high pass and low pass). Aldeeb

10- Hybrid images. AlDeeb

B) Report all of the above to TA's (One Zip file including report, codes, results, etc)