Exercise 1 – deadline: 14/1/1400

Sampling and quantization:

1- Load and display image1 and answer the below question:

a) Computes the difference between values in neighboring pixels and Find the number of bytes and size of the image, and display each case.
b) Representation the image with unit-8 data type, default type (float 64) and by adding bias (128) and plot it.
c) How many bits can manage so that we still have a good image? Plot all of the cases.

Geometrical spatial operations:

1- Perform the scaling (1.5*1.5), translation and rotation (90°) operations for Figure 2 and plot the final image in each case.

Histogram equalization:

1- First, display Gaussian Probability Mass Function (PMF) and Cumulative Mass Function (CMF) with mu=0 and sigma=1 second, apply histogram equalization and histogram matching transform in image3 third, plot each histogram and compare them.

Write a report with description of steps in each number and each case and also put the screenshot of the original images and results in the report.

Attach the code.

Make HW1.zip

Upload it in elearn system.