

ECE-178 Homework #1.

Due on Wednesday, October 9, 2024, 11:59 PM

Name:

TA:

A. Written Problems:

1. Give the image processing function (i.e. $I(f(x),g(y))$) that is equivalent to moving the origin of a 100x100 image from the top left corner to the bottom left corner.
2. What image processing function is equivalent to rotating the image by 180° ?

B. Programming Assignment:

This assignment will require you to have access to a working Python installation with the Pillow and numpy libraries installed. If you do not already have this in place, instructions and help will be provided in the discussion sessions.

1. Load the provided image "homework_1.jpg" using the Pillow library (hint: consult the Python basics file in resources). Provide the RGB values of $I(200,300)$. Provide the code you used to retrieve the value.
2. Convert "homework_1.jpg" to grayscale, implement the function that is equivalent to a 180° rotation, and provide the resulting grayscale value of $I(200,300)$. Provide the code you used to retrieve the value.