CSC 331: Digital Image Processing

**FALL 2024**

Assignment # 3

**Deadline: November 25th, 2024 at 11:59pm**

**Instructions (To be followed very strictly):**

* Assignment will not be considered after the mentioned deadline.
* You are required to submit your assignment with inputs and outputs exactly as stated in the assignment description.
* In case of cheating, all involved will get a straight “ZERO”
* You are required to make a “ReadMe.txt” file that can be of maximum 2-3 lines.

This file should contain the exact command that can be used to run your assignment/code. If your code cannot be executed after doing what you mentioned in the readme file, it will be not marked.

* Comment your code generously.
* All the files should be zipped into a single directory before sending (note: only use \*.zip/rar format)
* Your code folder to be zipped, should be named as follows

Your\_Name\_ ROLL#\_Assign\_#

* Upload the assignment in response to Assignment in the google classroom

**Assignment Statement:**

***CLO: <3>; Bloom Taxonomy Level: <Applying>***

**Question # 1: 10 Marks**

Your MATLAB code written in the form of a MATLAB function, should be able to take any image (any size) as an input. Once the image has been read, apply Histogram Equalization (HE). Now enhance the input image using Statistical Parameters (SP). By applying SP, you will first get the area which needs to be enhanced and then you will enhance it. You are also required to display original, enhanced image using HE and enhance image using SP and save/write them in the current directory with the following names, “original\_image.jpeg”, “Enhanced Image using HE” and “Enhanced Image using SP” respectively.

**Use your own code for averaging, no use of built in function for that.**

The **major** steps will be

(0 points) Reading in any input image file

(0 point) Converting image to grey scale

(4 points) Apply Histogram Equalization

(4 points) Apply Statistical Parameters

(1 points) Display images

(1 points) Commenting all your code

Note:

1. While making your code able to read any image, be aware of any hardcoded values, which will make that impossible. **Test your code on different images.**
2. Your complete code will be written within a function named “myThirdAssignment()”, which is able to read any image I provide to it at run time. So, the function would be written as

function myThirdAssignment(filename)

1. When I call your function, I will simply write the following on command prompt (for example)

myThirdAssignment('anyImage.png'); // In this anyImage.png is the input image file.