## An-Najah National University Department of Computer Engineering Digital Image Processing - 10636318 Second Semester 2022/2023 OpenCV Assignment

Write a program to perform the following functionalities on an input image:

- 1. Read a color image (please use any image you prefer that is <u>dark</u>, <u>bright or low-contrast</u>)
- 2. Convert the image into gray-scale
- 3. Show the histogram of the image
- 4. Print the necessary features/values that can be useful to identify the shape of the histogram
- 5. Enhance the contrast of the image using the following techniques and compare between the resulting images
  - Manually using the intensity transformation functions
  - Automatically using histogram equalization

Submit your source code and a PDF file that contains the output and the code for each segment (functionality) above. Please consider the following regulations:

- Each student should perform the assignment individually
- You can use only C, C++ or Python with OpenCV to implement the assignment.

• Deadline: 22.10.2022