Assignment 2
CV701 - Human and Computer Vision

Introduction:

In this assignment you must implement the following **two tasks** and submit the code (if required) along with a brief report summarizing your findings. This is a **group assessment**, where you are expected work in groups of no more than 4. You **must** implement all of the functions mentioned below from scratch without using any available libraries that directly carry out the full task/sub-task.

Submission. For this assignment, you must submit:

- The group report in PDF format, to be submitted to the link labelled with "Group Report Submission". Only one member of the group should submit this. You must add your code as editable text to this document. This report **must not exceed 6 pages,** excluding referencing and appendices.

- The group code and other materials (i.e. images) in a compressed (zip/tar) file to be submitted to the link labelled "Group Code Submission". Similar to the above, only one member of the group should submit this.

- Individual report in PDF format (no more than half a page), highlighting your individual contribution to the group.

Task 1: (5.5/12.5 Marks)

Given an image of a fence ("fence.jpg"):

1. Implement a function to carry out Canny edge detection on the image. Compare the results of your function with that of a pre-built function from a library such as OpenCV.

2. Based on the Canny edge detection result, implement a method to count the number of posts are in the image.

Task 2: (7/12.5 Marks)

Given an image of a sunflower field ("flowers.png"):

1. Implement blob detection using Laplacian of Gaussian (LoG) to detect the flowers in the image. Compare the results of your function with that of a pre-built function from a library such as OpenCV.

2. Compare the performance of the blob detection method with and without applying normalized scale variations to the given image.

3. Repeat the above comparison at different threshold values.