

DMET 1001 – Image Processing

Assignment #3

(Due on: June 9, 2022 at mid-night)

(This assignment can be done in teams of maximum 2 students – Please include a text file with your names and IDs in the submission)
Submit the Assignment to: dmet10012022@gmail.com

Write a function that implements the LZW coding compression applied to gray-scale image. Your function should take the gray-scale image as an input and outputs the dictionary, the output code for the input image and the compression ratio. The output code should be represented as decimal numbers separated by spaces. The dictionary should be represented in two columns with the first column showing the code while the second column shows the corresponding sequence. Apply your function to the image “Camera2.jpg”.

Deliverables:

- Your code.
- The output dictionary saved in a text file. Name the file “Dict.txt”.
- The output binary string of the image. Name the file “LZWCode.txt”.
- The compression ratio saved in a text file. Name the file “CompRatio.txt”.

Note: Don’t use already existing functions in Python packages for LZW compression. You have to implement them from scratch.