A.I

LAB TASK 9

Name: Syed Muzzamil Waseem

SID: 11067

CID: 110089

QUESTION

Perform Histogram Equalization on the following image



CODE:

import cv2

import numpy as np

from matplotlib import pyplot as plt

img = cv2.imread('C:\\Users\\muxxa\\OneDrive\\Desktop\\image.png',0)

hist,bins = np.histogram(img.flatten(),256,[0,256])

cdf = hist.cumsum()

cdf\_normalized = cdf \* hist.max()/ cdf.max()

plt.plot(cdf\_normalized, color = 'b')

plt.hist(img.flatten(),256,[0,256], color = 'r')

plt.xlim([0,256])

plt.legend(('cdf','histogram'), loc = 'upper left')

plt.show()

cdf\_m = np.ma.masked\_equal(cdf,0)

cdf\_m = (cdf\_m - cdf\_m.min())\*255/(cdf\_m.max()-cdf\_m.min())

cdf = np.ma.filled(cdf\_m,0).astype('uint8')

img2 = cdf[img]

OUTPUT:

