

# Assignment 5

## HISTOGRAM USING MATLAB

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MT-006

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# AIM 1

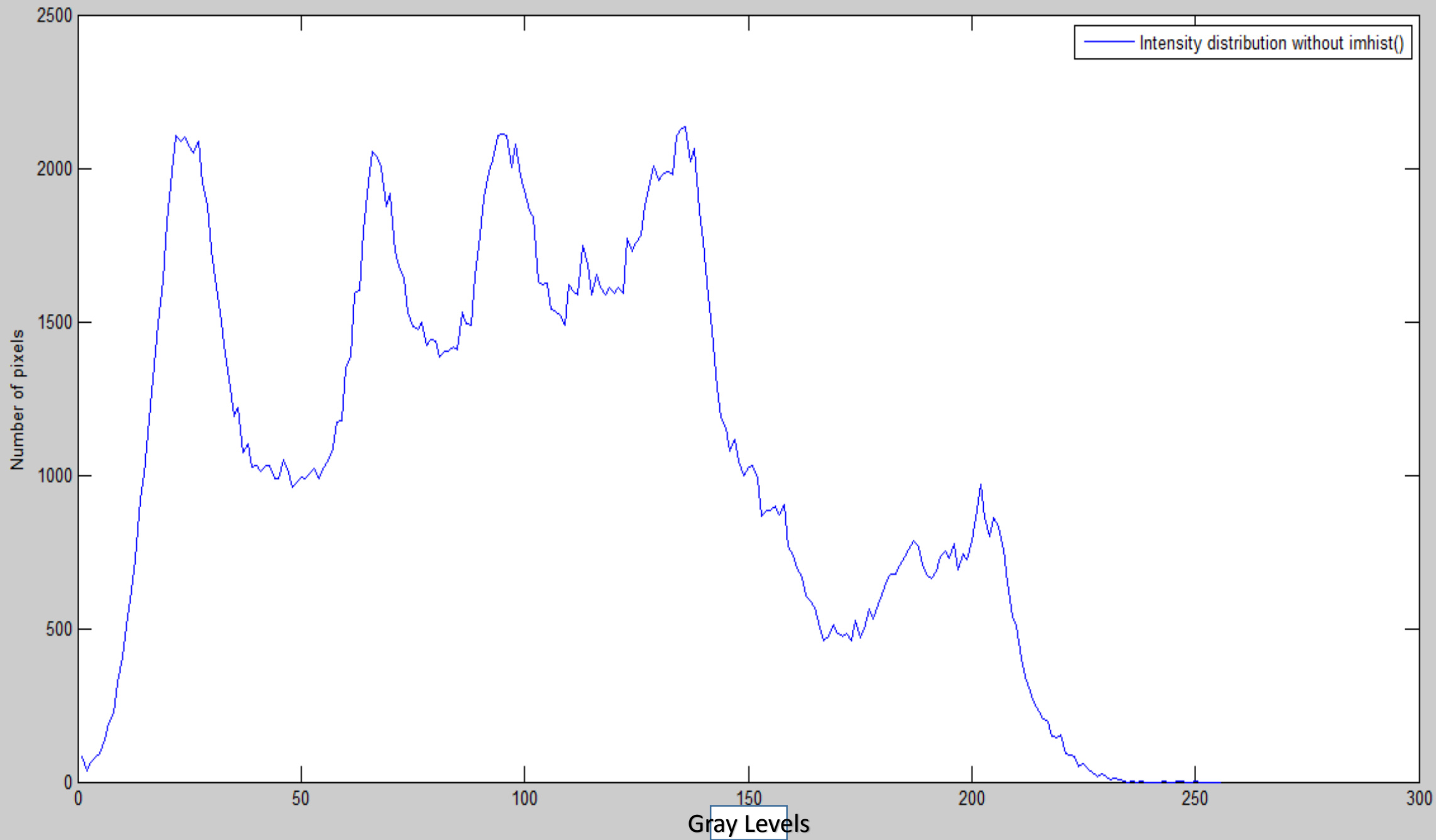
- Write a program to find histogram of image without using function. Compare with imhist function. Display original image, Histogram without using function and Histogram with function.

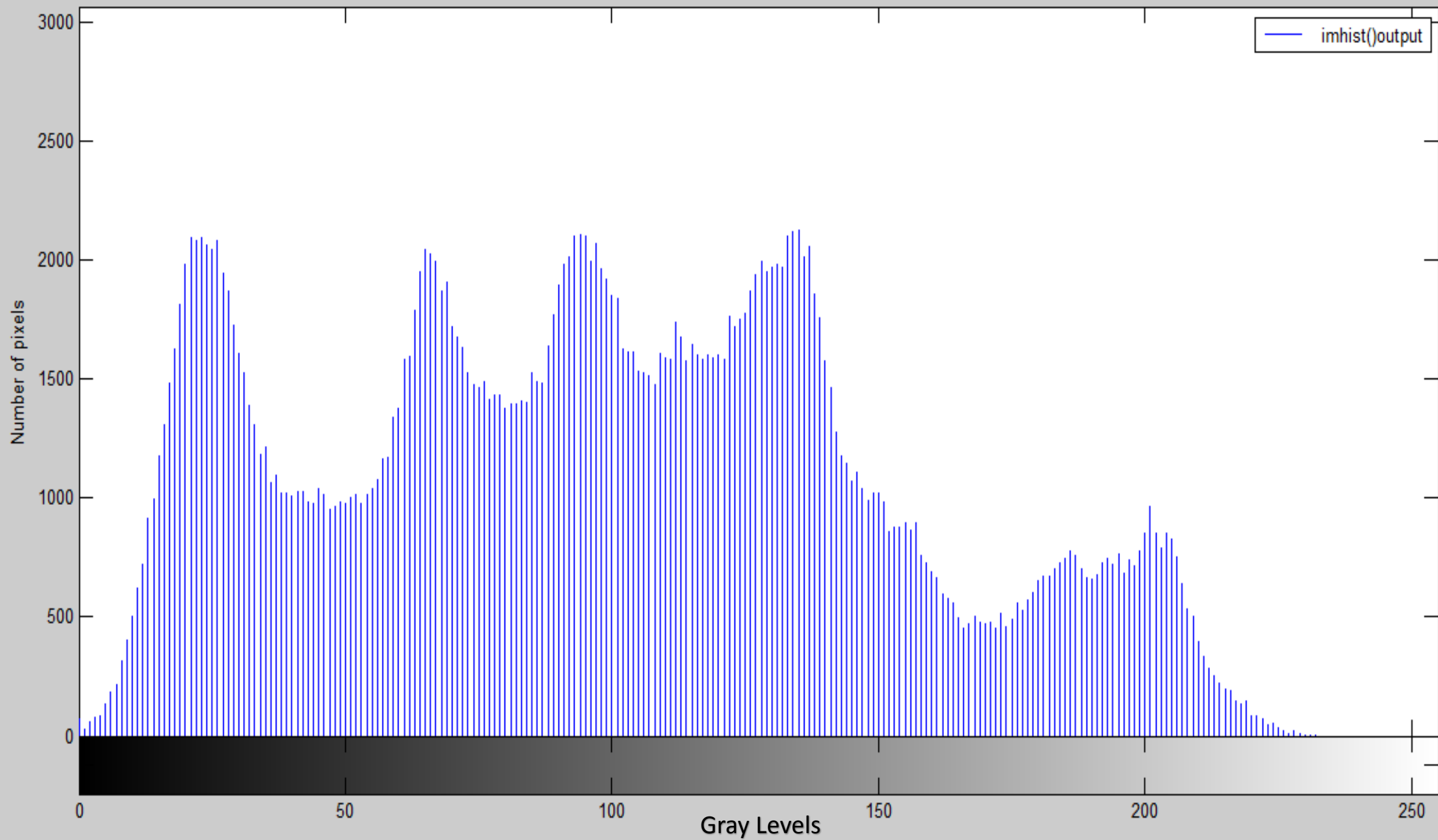
# Code:-

- `clc;`
- `clear all;`
- `close all;`
- `x=zeros(1,256);`
- `x1=imread('lena.jpg');`
- `[a b]=size(x1);`
- `for i=1:a`
  - `for j=1:b`
    - `x(x1(i,j)+1)=x(x1(i,j)+1)+1;`
  - `end`
- `end`

## Code:-(Cont'd)

- `xx=1:1:256;`
- `figure,plot(xx,x);`
- `xlabel('Intensity');`
- `ylabel('Number of pixels');`
- `legend('Intensity distribution without imhist()');`
- `figure,`
- `imhist(x1);`
- `xlabel('Intensities');`
- `ylabel('Number of pixels');`
- `legend('imhist()output');`





## AIM 2

- Write a program to display histogram of original image and equalized image. Display all images.

# Code:-

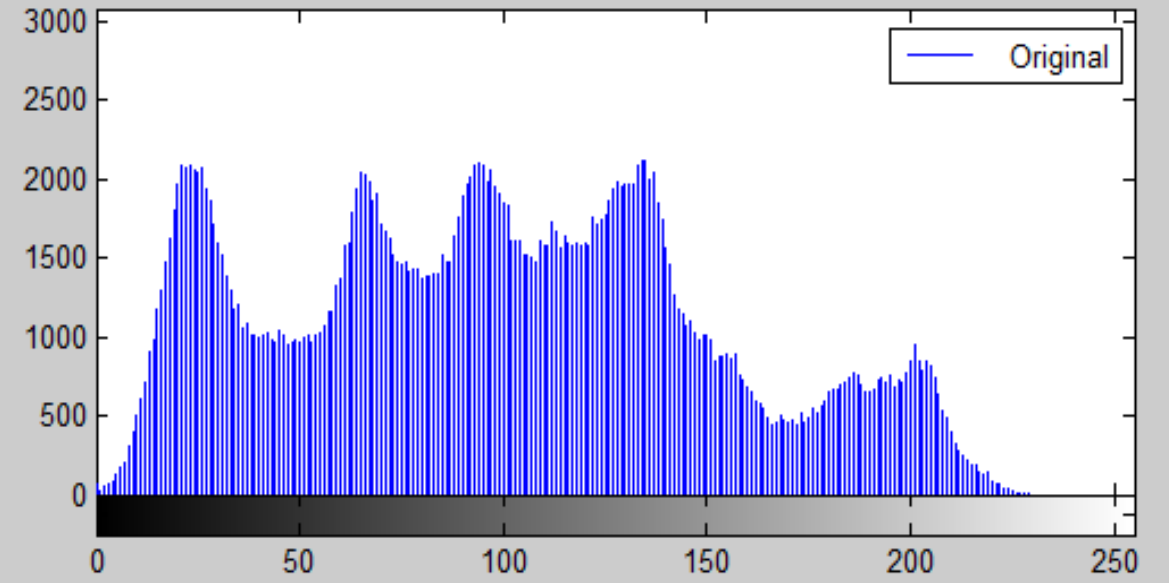
- `clc;`
- `clear all;`
- `close all;`
- `x=zeros(1,256);`
- `x1=imread('lena.jpg');`
- `figure,`
- `subplot(2,2,1);`
- `imshow(x1);title('ORIGINAL IMAGE')`



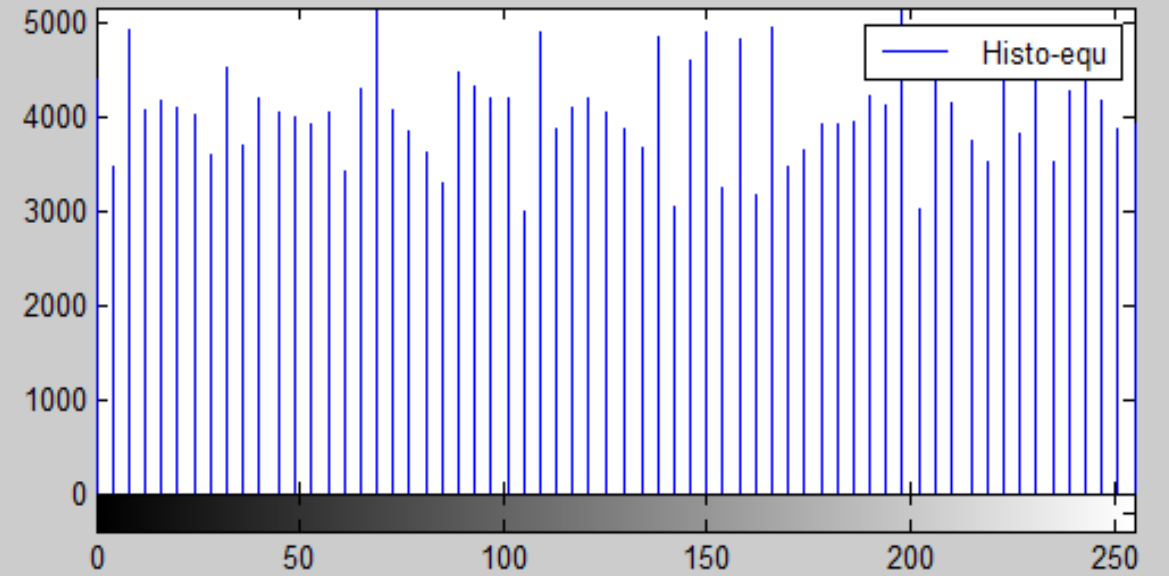
## Code:-(Cont'd)

- subplot(2,2,2);
- imhist(x1);
- legend('Original');
- J=histeq(x1);
- subplot(2,2,3);
- imshow(J);title('EQUALIZED IMAGE')
- subplot(2,2,4);
- imhist(J);
- legend('Histo-equ');

ORIGINAL IMAGE



EQUALIZED IMAGE



# AIM 3

- Write a program to display original image, referenced image and histogram matched image. Use following images as original and reference image.
- `A = imread('concordaerial.png');`
- `Ref = imread('concordorthophoto.png');`

# Code:-

- `clc;`
- `clear all;`
- `close all;`
- `A = imread('concordaerial.png');`
- `Ref = imread('concordorthophoto.png');`
- `B=imhistmatch(A,Ref);`
- `%subplot(1,3,1)`
- `figure,imshow(A);title('ORIGINAL')`
- `%subplot(1,3,2)`
- `figure,imshow(Ref);title('REFERENCE')`
- `%subplot(1,3,3)`
- `figure,imshow(B);title('MATCHED IMAGE')`



ORIGINAL





REFERENCE





MATCHED IMAGE





THANK YOU