**Code 3b**

clc;

clear all;

close all;

a = imread('pout.tif');

[m,n] = size(a);

count = zeros(1,256);

for k = 0:255

for i = 1:m

for j = 1:n

if (a(i,j) == k)

count(k+1) = count(k+1) + 1;

end

end

end

end

n = 0;

for i = 1:256

n = n + count(i);

end

pdf = zeros(1,256);

for i = 1:256

pdf(i) = count(i)/n;

end

cdf = zeros(1,256);

cdf(1) = pdf(1);

for i = 2:256

cdf(i) = cdf(i-1) + pdf(i);

end

x = zeros(1,256);

for i = 1:256

x(i) = round(255\*cdf(i));

end

subplot(1,2,1)

stem(x);

title('EQUALIZED HISTOGRAM');

xlabel('GRAYSCALE');

ylabel('NUMBER OF PIXELS');

subplot(1,2,2)

histeq(a);

title('EQUALIZED IMAGE');