**AIM :-** To plot probability density functions of uniformly and randomly distributed numbers

clc;

clear;

n=500000;

%COMPUTE MEAN AND VARIANCE OF A SET OF UNIFORM AND NORMAL DISTRIBUTION

% UNIFORM

x1=rand(1,n);

avg=mean(x1)

variance=var(x1)

% NORMAL

x2=randn(1,n);

avg=mean(x2)

variance=var(x2)

% PLOTTING DISTRIBUTIONS

% UNIFORM

subplot(1,2,1);

hist(x1,1000)

xlabel('x'); ylabel('frequency'); title('uniform distribution');

% NORMAL

subplot(1,2,2)

hist(x2,1000)

xlabel('x'); ylabel('frequency'); title('Normal Distribution');

**OUTPUT :-**

avg =

0.5002

variance =

0.0834

avg =

4.8773e-004

variance =

0.9976

