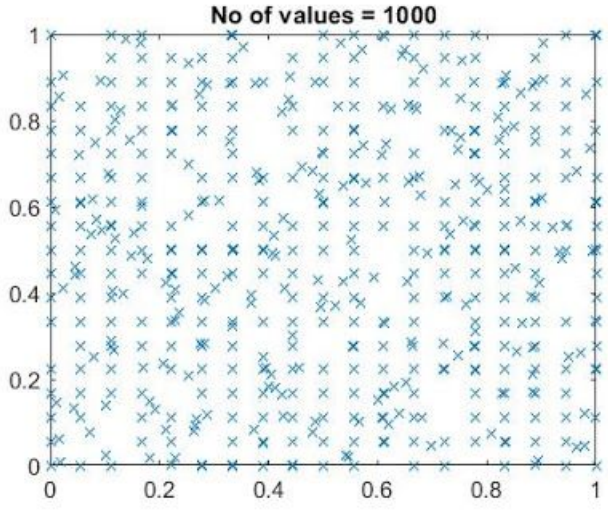
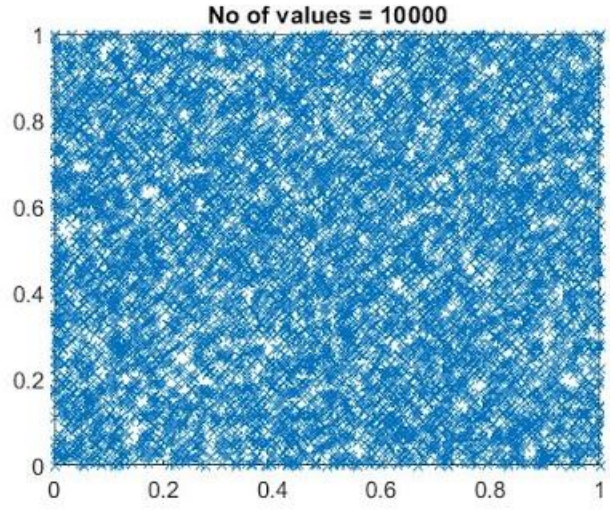
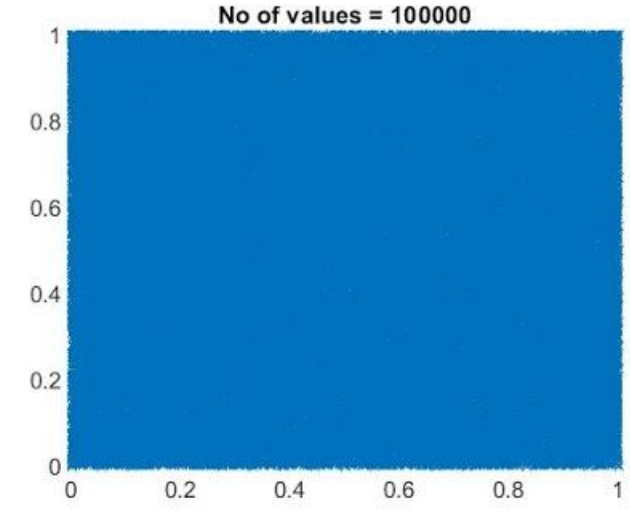
Lab 02 observations

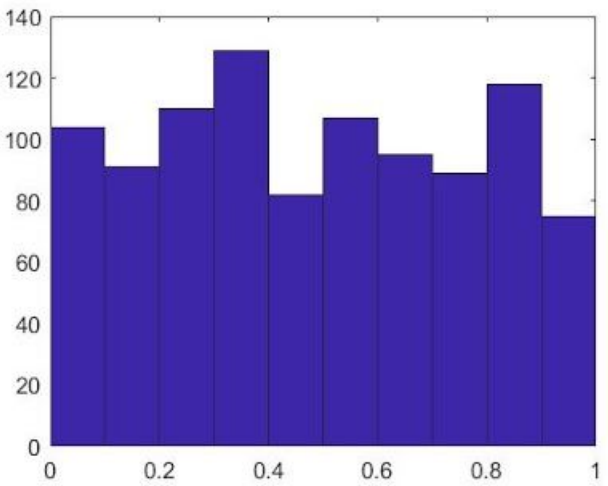
QNo1.

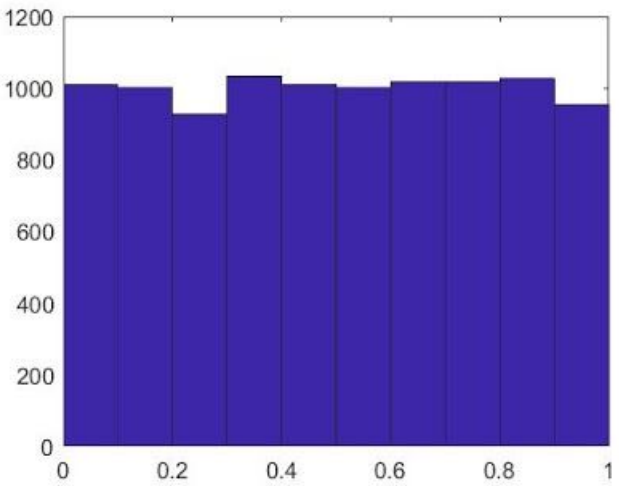
The obtained plots of (u_i , u_{i+1}) for 1000, 10000 and 100000 observations are :

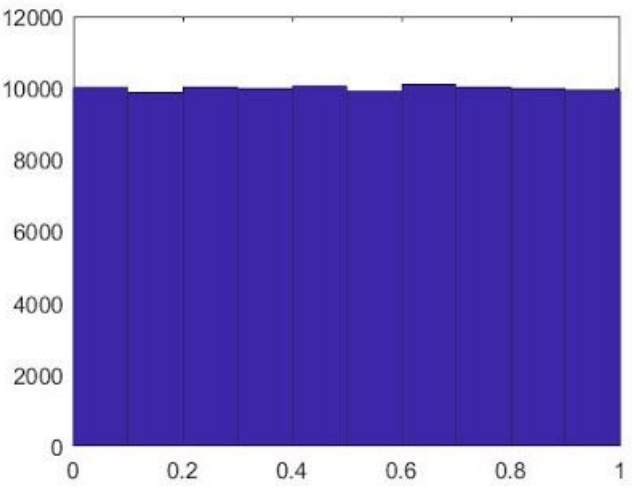










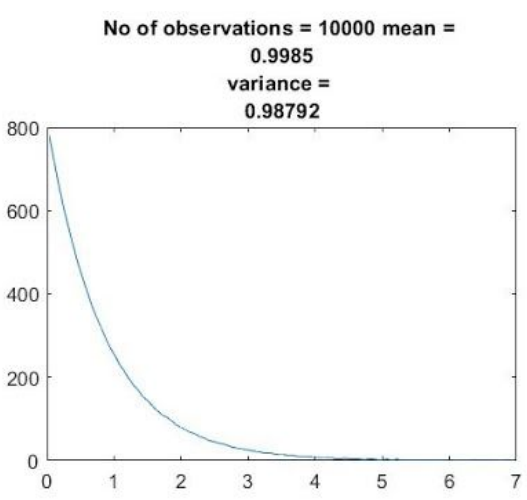


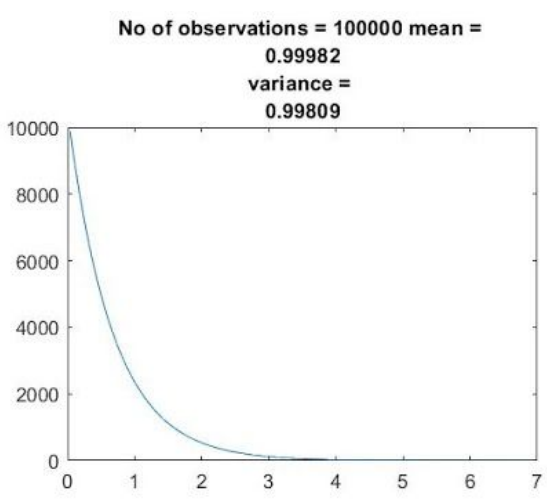
From the above plots we see on increasing no of observations the distribution is going to be uniform.

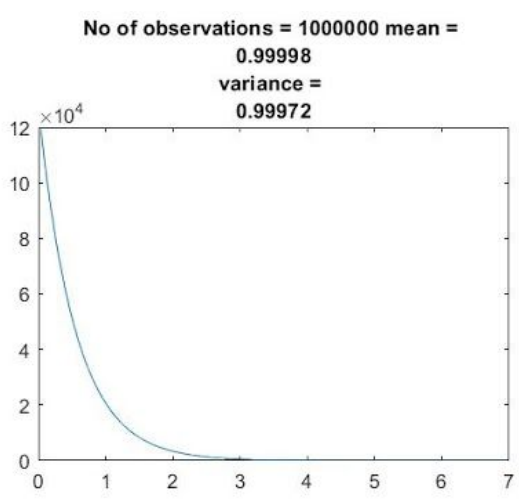
QNo2.

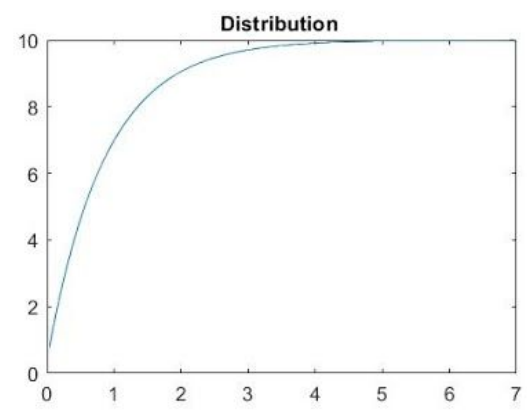
- The plot of Distribution function and frequency in the intervals vs midpoint of the intervals

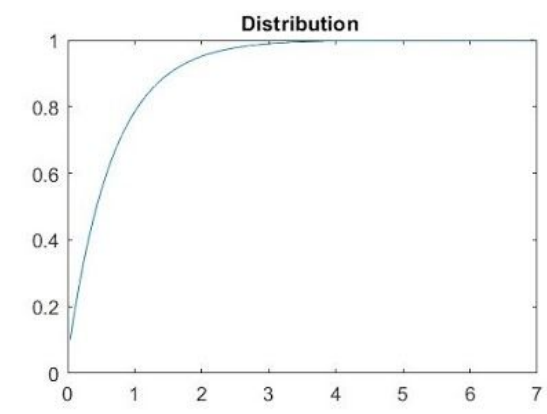
for no of observations 10^4, 10^5 and 10^6 are :

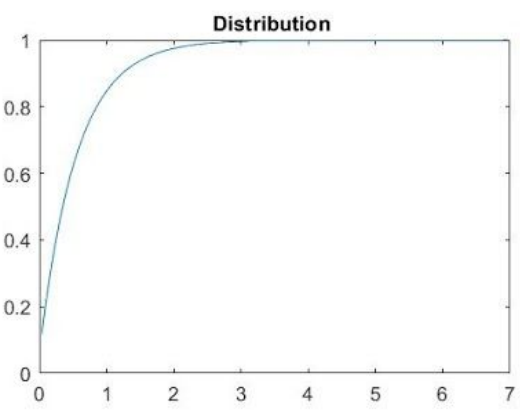




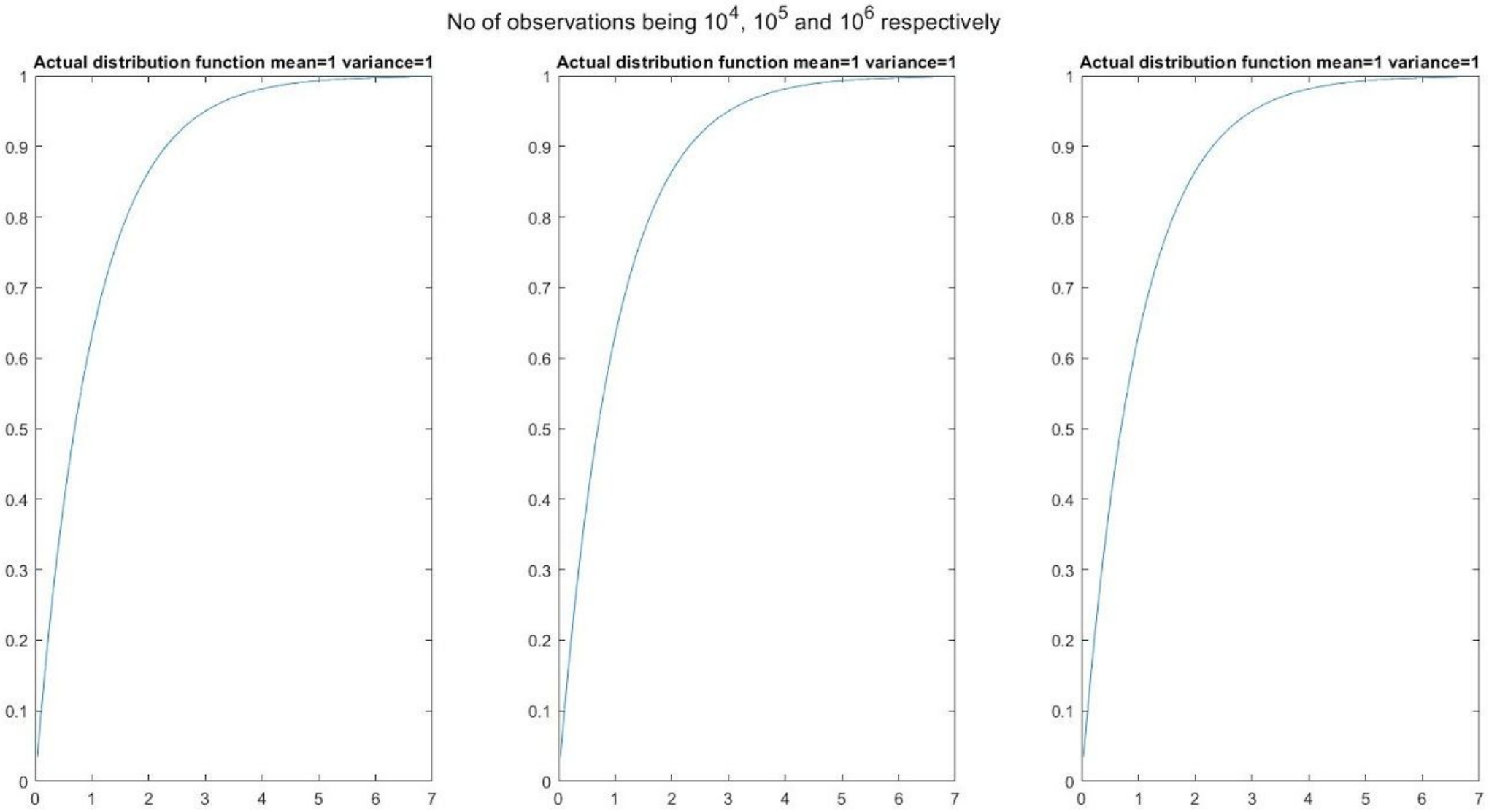








- The plot of the actual Distribution function is :

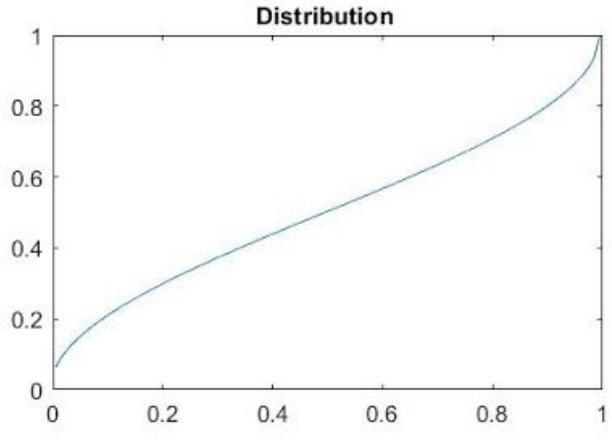


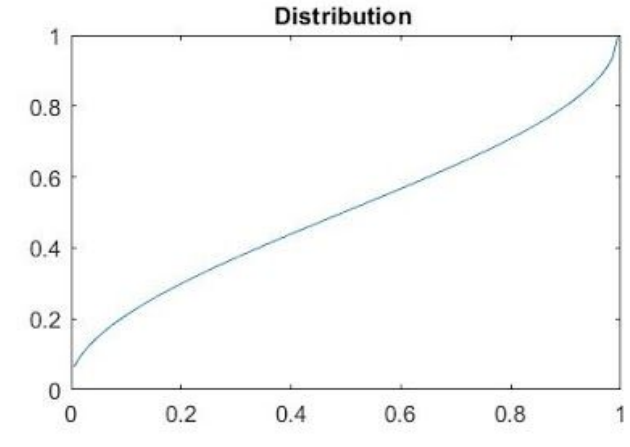
No of observations	10000	100000	1000000
Mean calculated from the generated sequence	0.9985	0.99982	0.99998
Variance calculated from the generated sequence	0.98792	0.99809	0.99972
Actual value of mean	1	1	1
Actual value of variance	1	1	1

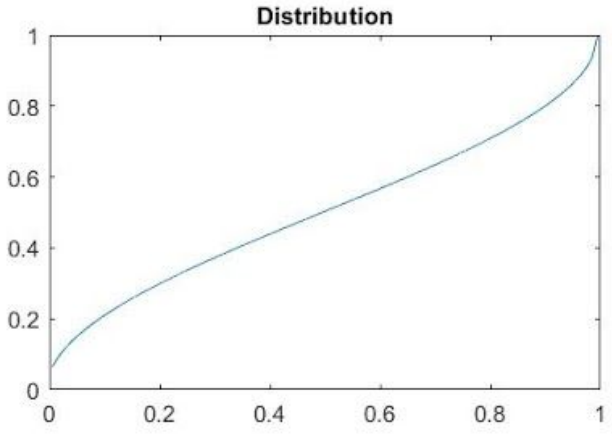
QNo3

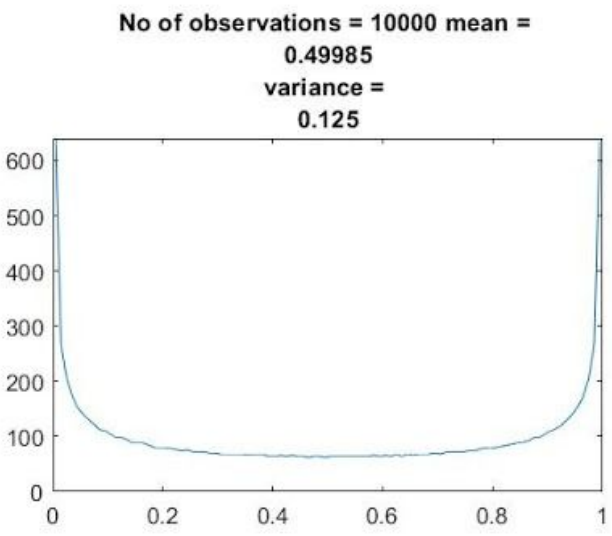
- The plot of Distribution function and frequency in the intervals vs midpoint of the intervals

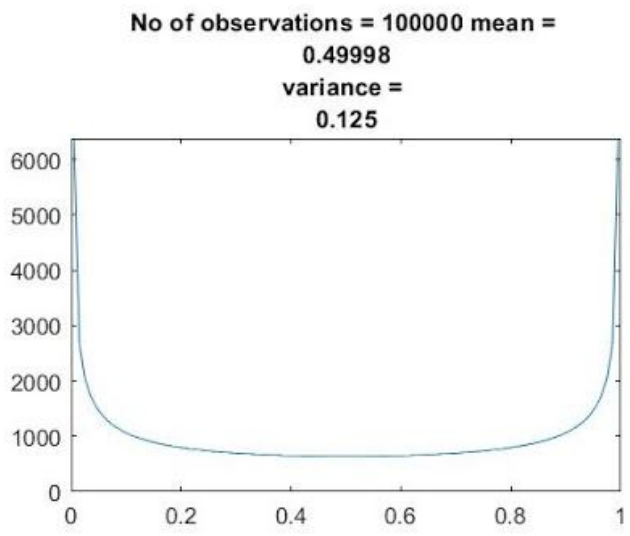
for no of observations 10^4, 10^5 and 10^6 are :

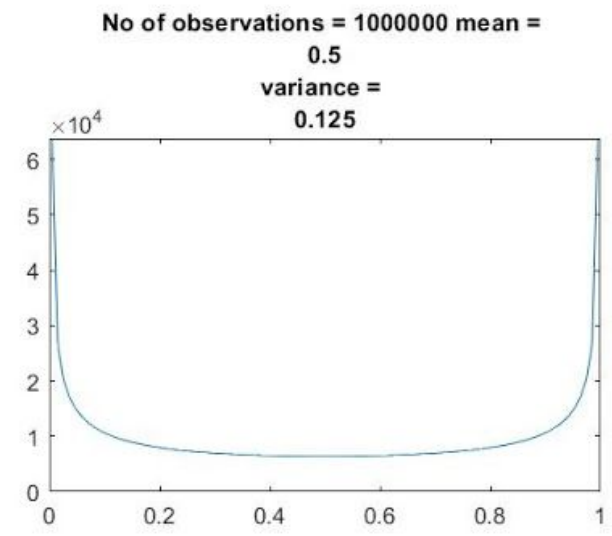




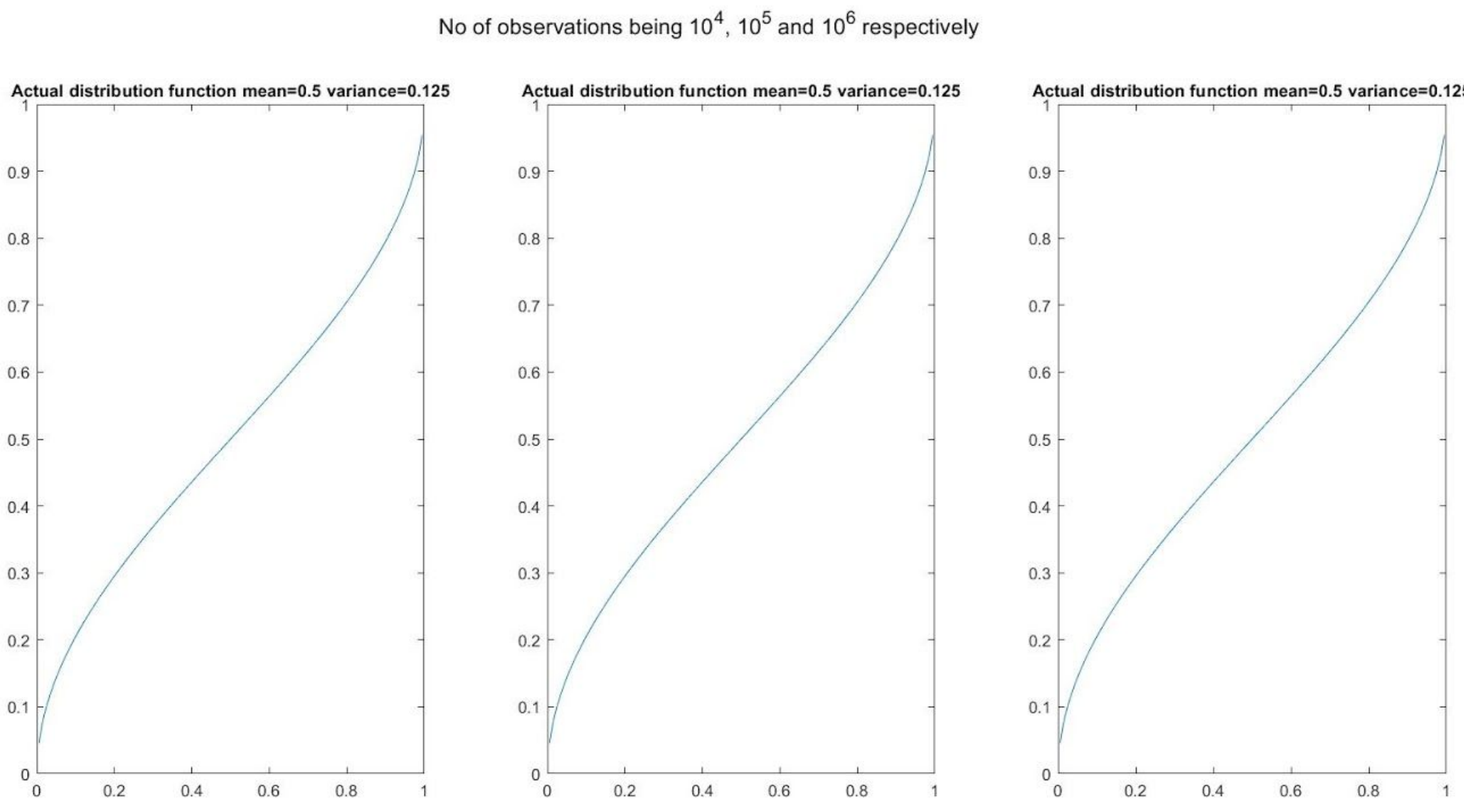








- The plot of actual Distribution function is:



No of observations	10000	100000	1000000
Mean calculated from the generated sequence	0.49985	0.49998	0.5
Variance calculated from the generated sequence	0.125	0.125	0.125
Actual value of mean	0.5	0.5	0.5
Actual value of variance	0.125	0.125	0.125