

NAME: SHUBHAM SHARMA

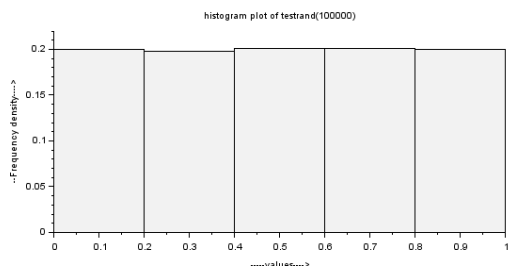
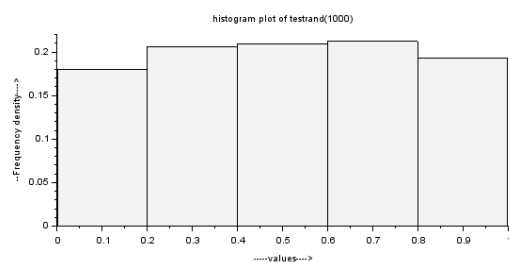
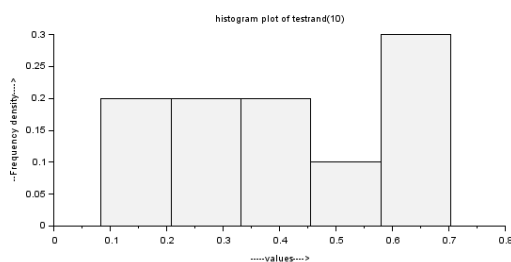
ROLL NO: 18i190002

MSC PHD (OR)

EX3:

PART A

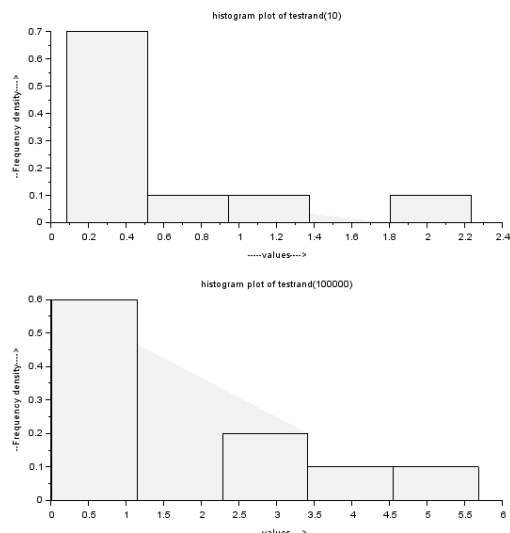
Here is the Histplot when $n=10$, $n=1000$, $n=1000000$



We are getting that hist plot as we expected as we are increasing the values of n , Larger the values of n we take, more precise and good results we'll get. So in case of $n=10$, there is a little variation, but in case of $n=1000$ and $n=1000000$ we are getting results as it should be in uniform distribution, so more the size of this sample, more it will behave like uniform distribution.

PART B

We have done the same using grand in scilab:



As we can see the histplot above , everytime it is coming exponentially as we expected but in case of uniform distribution , more was the size of sample , more precise the results were, but here we are getting results we expected in all the cases.

PART C

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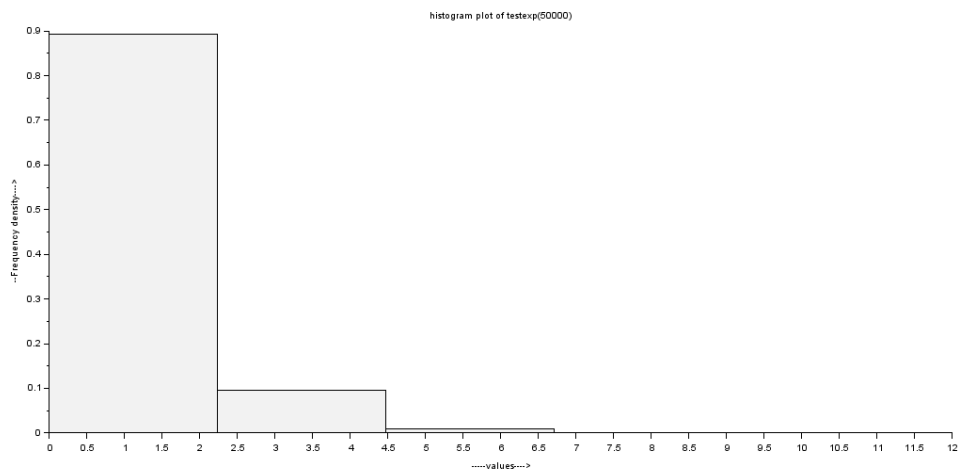
Scilab 6.0.1 Console
File Edit Control Applications ?
C:\Users\shubham\Documents\
Name
Documents
Custom Office Templates
Documents
MobaXterm
My Music
My Pictures
My Videos
Python Scripts
lab06_18190002.docx
lab06_18190002.docx
temp.py
temp.sci
temp2.py
temp2.sci
temp3.sci
File/directory filter
Case sensitive Regular expression
Exact

--> [a,b]=testexp(50000);
--> b
b =
0.3935939
--> |

ex3c.sci (C:\Users\shubham\Documents\ex3c.sci) - SciNotes
ex3.sci ex7a.sce ex3b.sci ex3c.sci
1 clc,clear
2 function [y,p]=testexp(n)
3   y=[]
4   counter=0
5   counter1=0
6   i=0
7   while i<=(n^4)+20*n
8     z=grand(1,1,'exp',1)
9     counter=counter+1
10    i=i+1
11    if z<0.5

```

we are getting the ratio as asked : 0.3935939



the hist plot is as follows , we see that we get less than half values that were less than 0.5 and we decrease the values to 0.5 so the graph will not consider higher values.