Lab Number : 04
Due Date : Sept 30, 2020
Student Details :

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- Department : Mathematics and Computing

Question 1 :

Observations :

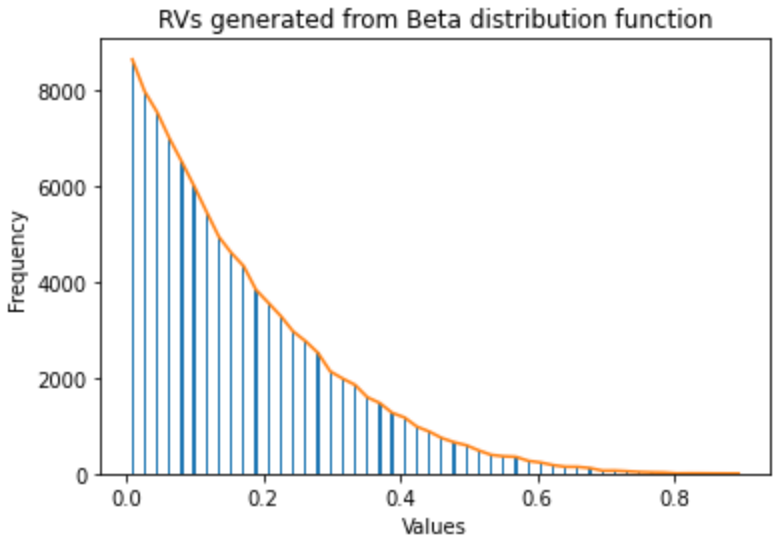
The values of α_1 and α_2 (chosen) and the corresponding value of **x*** (calculated from $x^* = (\alpha_1 - 1)/(\alpha_1 + \alpha_2 - 2)$ are shown in the table below:

α_1	1	2	3	4	5
α_2	5	4	3	2	1
x*	0	0.25	0.5	0.75	1

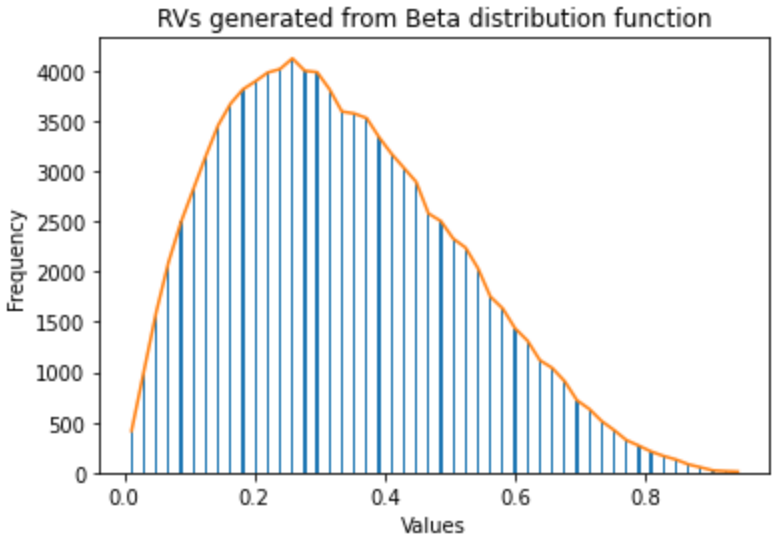
From x* and using python libraries for Gamma function, we found out the value of f(x*) and also f(U1) for U1~ $U[0,1]$ and U2~ $U[0,1]$ and applied acceptance rejection method for generating the random variables (in my case 100000 RVs). Following this, we made the histograms plotting **frequency** vs **values**.

Output :

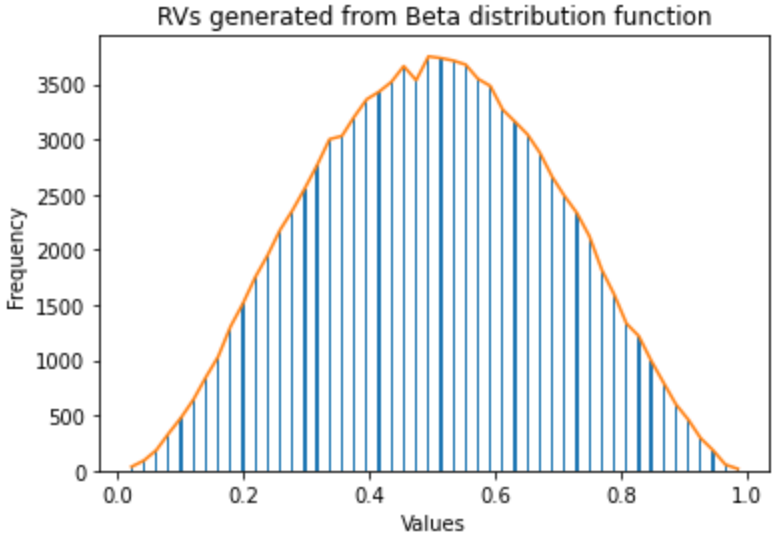
Alpha values = 1,5



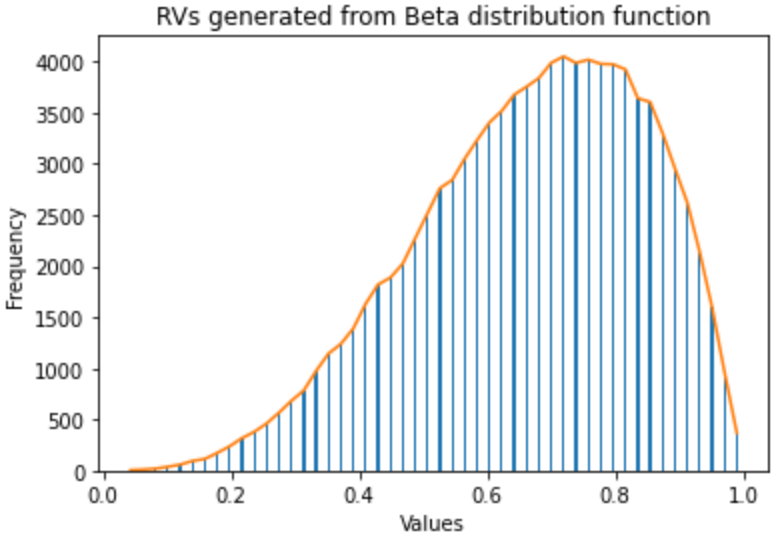
Alpha values = 2,4



Alpha values = 3,3



Alpha values = 4,2



Alpha values = 5,1