COMP533- ASSIGNMENT

Question 1

What is the probability that the rank of the random matrix of size n x n generated by *py* is **n**? Please note that the probability that this rank is **0** is $1/(n+1)^n$.

Answer:

Probability of n x n matrix having rank n is given by $\boxed{n /(n +1)^n}$

Question 2

What can you say about the mean value (represented by the blue vertical line) of the rank distribution when n is growing?

Answer:

The mean value graph increases (moves with x axis) when n is growing. The ratio of mean to n-value is approximately 1.5