PROJECT 2 -VALUE AT RISK

VaR is a risk metric that corresponds to an amount that could be lost with some chosen probability.

Ex:

1-Day 99% - VaR means that the maximum amount of loss that can happen in a day with a probability of 99% and a 1 % probability of exceeding it.

OBJECTIVE:

To Calculate the 1 – Day 99% VaR of a Portfolio of 3 stocks using Parametric and Historical methods.

Portfolio value = 1_000_000 INR

Portfolio being:

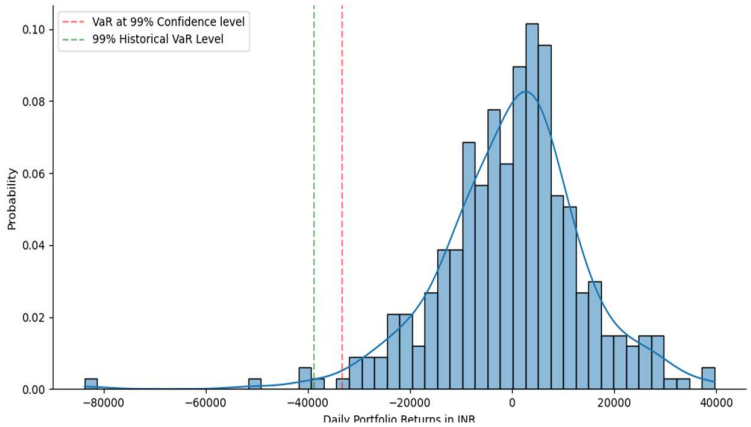
STOCKS	WEIGHTS
1. DLF	0.4
2. NTPC	0.2
3. HDFC	0.4

VAR METHODS,ASSUMPTIONS AND ESTIMATES.

METHOD	ASSUMPTIONS	METHODOLOGY	ESTIMATE (in INR)
1. PARAMETRIC	1. Risk Factor Returns are **Normally distributed** 2. Applicable for Portfolios whose Returns are a linear function of Asset-Returns.	1. VaR=-t and P(X<t)=0.01 2. 500 days of historical data has been used to estimate the parameters.	33303.566
2. HISTORICAL	1. Assumes that all possible future variations have been experienced in the past and the historical distribution is identical to the return distribution over the future horizon.	1. We take the past returns data, sort them in ascending order and calculate the 1st percentile.	38719.743

CONCLUSION:

1. Parametric Method VaR = 33303.566 implies that for a Portfolio worth 10 lakhs INR can suffer a maximum daily loss of 33303.566 INR with a 99% probability.
   The same Explanation can be extended for the Historical method.



The Figure above summarizes the full picture