ASSIGNMENT - 6

Explain CAGR with examples:-

CAGR (Compound Annual Growth rate) is the rate at which an investment grows annual assuming the profits are reinvested at the end of each year. It smooths out the growth rate over a period, accounting for volatility & showing a steady annual rate of growth from the beginning to the end of the period. The formula for CAGR is

$$CAGR = \left(\frac{Ending\ value}{Beginning\ value}\right)^{1/n} - 1$$

Ending value = value of the investment at the end of the period

Beginning value = value of the investment at the start of the period.

n = Number of years

Example 1 :- Investment Growth.

Lets say you invested $10,000 in a stock in 2018 & by 2023 the value of your investment has grown to $20,000. To calculate the CAGR.

Beginning value (2019) = $10,000

Ending value (2023) = $20,000

Number of years (n) = 4

$$CAGR = \left(\frac{20000}{10000}\right)^{1/4} - 1 = (2)^{0.25} - 1$$

$$= 18.92\%$$

So, the CAGR is 18.92%, meaning the investment grew by about 18.92% per year on average over the 4 year period.