Teamwork:

Properties of your portfolio returns vis-à-vis the market

- Select 10 stocks from 10 different industry sectors over the longest possible sample period as permitted by the dataset provided. Create an equally and a value weighted portfolio and characterize them by their statistical properties. Check the industry listing of firms by visiting https://www.dse.com.bd/by_industrylisting1.php
- Repeat the same exercise, this time, by creating 2 industry/sector portfolios, where each of these 2 portfolios comprise 10 stocks from the same industry/sector of the market.
- Compute similar statistics using a broad stock market index (such as the DSEX index provided in the dataset).

Prepare a comparative analysis of the portfolios you have created and evaluate these portfolios as against the market.

Notes:

- The risk-free rate data (use call money rate) at monthly frequency are usually reported as an annualized monthly percentage rate (annualized rate per month). You will have to use the following formula in Excel to convert that to the rate per month:

  Risk-free rate per month = (((1 + annualized rate per month / 100) ^ (1/12)) – 1)*100

- I suggest you to use return index (RI) to compute stock returns as follows:

  $\ln(RI_t / RI_{t-1})*100$

  Note that RI, considers both price change and the effect of dividend payments, and hence a better measure of a stock's/index's performance.

- In computing relevant statistics, you may use annualized, rather than monthly numbers. In that case, your 'annual average return' would be your monthly average return multiplied by 12 and 'annualized standard deviation' would be your monthly standard deviation times the square root of 12.