Symphony Hopkins

DSCI 502 2W: R Programming

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October 30, 2022

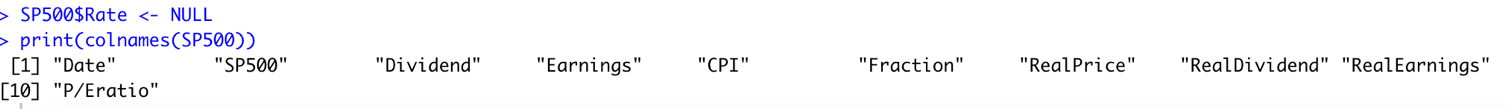
Project 2

1. Read the dataset in [SP500.xlsx](https://maryville.instructure.com/courses/67940/files/14859707/download?wrap=1" \o "SP500.xls) into R. Call the loaded data SP500. Make sure that you have the directory set to the correct location for the data.
   1. See R script.
2. How many rows are in the data set? How many columns are in the data set?
   1. There are 1777 rows and 11 columns.
   2. 
3. Select the following three columns: SP500, CPI, and Rate.
   1. Table

      Description automatically generated
4. Select the 10th, 100th, 500th, and 1500throws.
   1. Table

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5. Select all the observations such that SP500 is greater than 2000 or CPI is less than 100.
   1. Table

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6. Select the data such that Earnings greater than 50 and Rate less than 3 with columns SP500 and Dividend only.
   1. Graphical user interface, text, application

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7. Remove the entire column of Rate.
   1. 
8. Real price is the inflation adjusted price, which is given by the following formula: Real Price at time t = (SP 500 price at time t)\* CPI(t)/CPI(2018.09), where CPI(2018.09) is the latest consumer price index in the data set. Based on formula above, you need to add one more column, RealPrice.
   1. There is already a column named RealPrice, so I added a new column called NewRealPrice that contains the calculated values. I do not understand how the RealPrice values were calculated, but they differ from the values in the NewRealPrice column.
   2. Table

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9. Real earnings are the inflation adjusted earnings, which is given by the following formula: Real earnings at time t = (earnings at time t)\* CPI(t)/CPI(2018.09), where CPI(2018.09) is the latest consumer price index in the data set. Based on formula above, you need to add one more column, RealEarnings.
   1. Same as the previous question, there is already an existing column named RealEarnings, so I named the new column NewRealEarnings.
   2. Table

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10. Price to earnings ratio is given by the following formula: P/E Ratio = RealPrice/RealEarnings. Based on the formula above, please add one more column, PERatio.
    1. Table

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