**Part 1: Creating Portfolio Database**

* Creating Portfolio table in the data\_analytics\_2020 database:

Table

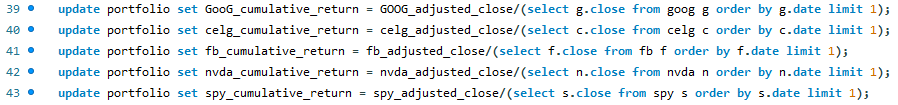
Description automatically generated with low confidence

* Updating Portfolio’s primary key date attribute based on dates from GOOG table, then updating all stock close values based on aligning dates between the queried tables:

Text

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* Calculating cumulative return for each stock and updating the Portfolio table:



* Resulting Portfolio table in the data\_analytics\_2020 database:

Table

Description automatically generated

Table

Description automatically generated

**Part 2: Write Portfolio Simulation Function**

* Running the created simulation function on the input specified below:

Text

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* The result of the simulation on the Portfolio table:

Table

Description automatically generated

Table

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Manually adjusting stock weights to improve Sharpe Ratio:

Text

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**Part 3: Write a portfolio optimization function:**

* Output of optimization function that takes into account all possible combinations of stock weights, and returns the combination of weights used to achieve the highest Sharpe Ratio:

Text

Description automatically generated

* Resulting Portfolio table after running optimization function:

Table

Description automatically generated

Table

Description automatically generated