Option B: Task-3

Firstly, I move the downloaded financial dataframe and the NaN data process code from the processData function in task 2 into 2 separate function call downloadData() and processNANs(). We can re-use them by calling them in the processData function.

A computer screen shot of a program

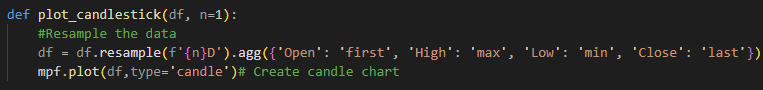
Description automatically generated

A screen shot of a computer code

Description automatically generated

Candlestick Chart Function

The task requires the ability to set nnn as the number of trading days per stick, so the function should accept both a data frame and an nnn integer, with a default value of 1 if nnn is not provided.



A graph with black and white rectangles

Description automatically generated

Boxplot Chart Function

The task require passing n as the rolling window size, so the function parameters include a dataframe, n for the window size, and a list of columns to display.

A screen shot of a computer code

Description automatically generated

The rolling data is calculated for the dataframe by looping through each column and applying the rolling() method with n. A boxplot is generated using the pyplot subplots() method, with NaNs dropped from the rolling data. The plot's title is set, and the plot is displayed using pyplot.

A graph of a window

Description automatically generated with medium confidence

Due to the volume column's significantly larger values making other columns appear invisible, I added the option to select which columns to display, allowing visibility by excluding the volume column.