Project Name: Fitbit Time Series Project
Project Type: optional solo project

Project Goals:
Explore time series data and use time series algorithms to predict next 2 weeks of fitbit data
Construct a ML time series model that predicts next 2 weeks of data with accuracy better than baseline
Deliverables: Main Notebook of Pipeline process with summary and conclusions, csv of next 2 weeks data

Stage	Tools	Brief Description of Process	Challenge Resolution
Plan	● Visual Studio	● In Visual Studio create a new readme.md file to outline project plan, create GitHub repo ● Import key elements and deliverables from curriculum requirements	● No unusual challenges in this section
Acquire	● Visual Studio ● Google Sheets ● .py script	● Data received in csv files included multiple tables in one sheet and separate files for each week ● Used Google Sheets to initially investigate and rearrange data into one csv file for analysis	● Once I realized the set up of the csv files were the issue resolving that using spreadsheet program was not an issue ● Decided not to use a programmatic approach for this one off issue
Prepare	● Google Sheets ● Jupyter Notebook	● Prepared data formats in spreadsheet as well as column names and titles ● Condensed data into one table for import into pandas	● No unusual challenges in this section
Explore	● Jupyter Notebook ● Seaborn	● Used pandas time series resampling and plotting features to investigate data ● Did not find a seasonal/cyclic trend in the	● Used examples from lessons

	● Matplotlib	data ● Did find a slight upward linear trend	
Model	● Jupyter Notebook ● Sklearn ● Multiple ML models tested	● Used last observed, and simple average models to determine a baseline (selected simple average as baseline to beat). ● Used rolling average and Holts models for predictions ● Unable to use previous cycle because data did not contain a cycle	● Used examples from lessons
Evaluate	● Jupyter Notebook ● Sklearn	● Determined rolling average was most accurate based on least RMSE ● Using 7 day rolling average produced model that was 28% better than simple average baseline	● Used examples from lessons
Model Explanation	**How does your algorithm work?**	● The rolling average takes the average over the period specified moving the window one increment at a time	● No unusual challenges in this section
Delivery	● Jupyter Notebook	● Added anchor link to jump to conclusions at bottom, also utilized Table of Contents to organize and jump to sections	● No unusual challenges in this section