T1A3 - Implementation Plan

Bitcoin Price Checker:

Key Focus areas for the program

- Will be using CSV files as the structure of data, pandas library to read it
- Using pd.read_csv (read up on Pandas Documentation)
- Will need to create the program in the following steps:
    1. Menu and Welcome message
    2. Successfully analyse CSV data **(Priority)**
    3. ****Use date matching based on user input to locate specific data** (Priority)**
    4. Create functions of application and incorporate them into the menu
    5. Testing functions based on various user input and recording result in testing report
    6. If there is time, build out additional functions e.g. Profit Calculator and test them

Welcome Message and Options Menu (Deadline - 09/07/2022)

- ☑ ~~Write a function that welcomes the user to the platform~~
- ☑ ~~Write a function that prints an options menu to the user~~
    - ☑ ~~Loop to be created for the number of options so that if a particular option is selected, the resulting function will be created~~
- ☑ ~~Test loop to see if invalid options are picked up~~

Read CSV file using pd.read_csv (Deadline - 09/07/2022)

- ☑ ~~Create a line of code that can read the csv file and save the result into a variable (df)~~
- ☑ ~~Test data is valid by printing it to terminal~~
- ☑ ~~Change file location to use relative path~~

Construct a function to match user input (date) with a matching date in the data (Deadline - 14/07/2022)

- ☑ ~~Modify df.loc expression so that the input date can be matched with the corresponding date in the data~~
- ☑ ~~Row has now been located, I need to find the corresponding column with the datapoint i require~~
- ☑ ~~(16/07/2022) - Try/Except blocks work, testing out invalid date options (see below and testing report)~~

Build out Price Checker, Price Comparison and Volume Checker functions now that i can locate the row and column containing data i require (Deadline - 14/07/2022)

- ☑ ~~Price Checker —> Checks the closing price at the user's entered date and prints it~~
- ☑ ~~Price Comparison —> Checks closing price of BTC at the specified date and compares it with the current date~~
- ☑ ~~Volume Checker —> Checks the volume in either BTC or USDT depending on user input and prints it~~
- ☑ ~~Testing date input functions in these functions to see if function is calling the correct date and identifying invalid dates (see testing report)~~

Build out Try/Exception blocks to check if input date is valid (Deadline - 16/07/2022)

- ☑ ~~Try/Exception blocks in user_input_date function~~
- ☑ ~~Test with various inputs to see if expected meets actual results~~
- ☑ ~~Incorporate results into testing report~~

Build out profit calculator (Deadline - 17/07/2022)

- ☑ ~~Profit calculation should allow user to input amount of BTC they held at the specified date and provide an output of what their BTC holdings were and compare it to current prices~~
- ☑ ~~Update menu to incorporate new function~~
- ☑ ~~Test out additional functions to see if we can exclude invalid strings and negative floats~~
- ☑ ~~Run testing report on new function to see if it is correctly implemented in profit_calculator()~~

Build out a bash script to make the program executable (Deadline - 17/07/2022)

- ☑ ~~Create bash script executable~~
- ☑ ~~If possible, see if I can make the program user friendly by not having user uneccessarily install dependencies whilst also allowing them to install natively if they wish~~
  - ☑ ~~Build out a function in bash script to run the program in Python VENV~~
  - ☑ ~~Identify dependencies and create a requirements.txt that outlines this (can be installed and run as part of venv or through the bash script)~~
  - ☑ ~~Update script to run with virtual environment and pip install -r requirements.txt~~
  - ☑ ~~Test functionality of script with~~

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./run-project.sh
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