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A Report On

"Real-Time Stock Price Tracker"

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"APPLICATION DEVELOPMENT USING PYTHON"

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Real-Time Stock Price Tracker Using Python

INTRODUCTION

This project uses the Alpha Vantage API to retrieve real-time stock data and display the latest close price for a specified stock. The project is written in Python, and makes use of the requests library to send API requests and the json library to parse the API's JSON response.

Working:

The project begins by importing the necessary libraries and setting up the API request by providing the API key and the stock's ticker symbol. The API request is sent and the response is parsed. The project then extracts the latest close price for the stock from the API's response.
The Alpha Vantage API provides a wide range of financial data and this project can be extended to display more data or to update the displayed data in real-time.
This project would be useful for individuals or organizations that need to monitor stock prices in real-time, such as stock traders or portfolio managers. It's also a great way to learn how to interact with APIs, parsing and manipulating JSON data and build simple but useful scripts.

PACKAGES USED

1)REQUESTS

The requests package is a library for sending HTTP requests in Python. It abstracts the complexities of making requests behind a simple API so that you can focus on interacting with services and consuming data. The package allows you to send HTTP/1.1 requests extremely easily, and it returns a Response object that contains the server's response to your request.

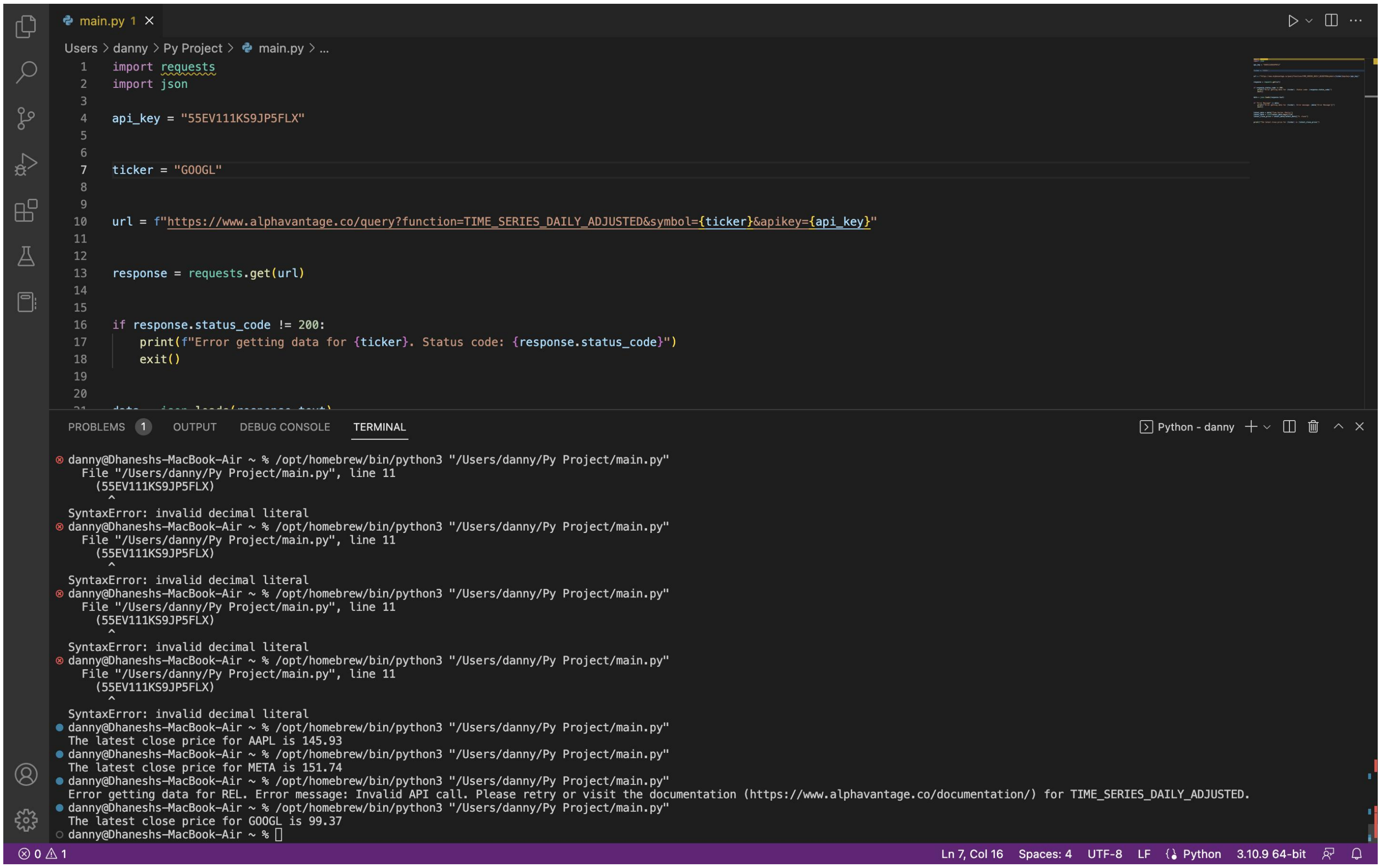
2)JSON

The json package is part of the Python standard library and provides functions for working with JSON data. It allows you to parse JSON data, which is returned by the API, into a Python dictionary so that you can easily access the different data points. The loads() function is used to parse the JSON data into a dictionary and the dumps() function can be used to convert a Python object into a JSON string

PROGRAM

```
import requests
import json

api_key = "55EV111KS9JP5FLX"

ticker = input("Enter the TICKER symbol of the stock: ")

url =
f"https://www.alphavantage.co/query?function=TIME_SERIES_DAILY_ADJUSTED&symbol={ticker}&apikey={api_key}"

response = requests.get(url)

if response.status_code != 200:
print(f"Error getting data for {ticker}. Status code:
{response.status_code}")
exit()

data = json.loads(response.text)

if "Error Message" in data:
print(f"Error getting data for {ticker}. Error message: {data['Error
Message']}")
exit()

latest_data = data["Time Series (Daily)"]
latest_date = list(latest_data.keys())[0]
latest_close_price = latest_data[latest_date]["4. close"]

print(f"The latest close price for {ticker} is {latest_close_price}")
```

OUTPUT



The following code shows the current price for Apple with theirgiven ticker symbol “AAPL”.
Similarly “GOOGL” for Alphabet’s share price.

CODE BREAKDOWN

The first line import requests imports the requests library, which allows you to send HTTP requests in Python.

The second line import json imports the json library, which allows you to parse JSON data in Python.

The third line api_key = "YOUR_API_KEY" creates a variable called api_key and assigns it the value of your Alpha Vantage API key. Make sure to replace YOUR_API_KEY with your actual API key.

The fourth line ticker = "AAPL" creates a variable called ticker and assigns it the value of the stock ticker symbol you want to get data for.

The fifth line url = f"https://www.alphavantage.co/query?function=TIME_SERIES_DAILY_ADJUSTED&symbol={ticker}&apikey={api_key}" creates a variable called url and assigns it the URL of the Alpha Vantage API endpoint, with the ticker and api_key variables included in the URL.

The sixth line response = requests.get(url) sends a GET request to the API endpoint specified in the url variable, and assigns the response to the response variable.

The seventh line if response.status_code != 200: checks if the status code of the response is not 200, which indicates that the request was successful.

The eighth line print(f"Error getting data for {ticker}. Status code: {response.status_code}") prints an error message if the status code is not 200.

The ninth line exit() exits the program if the status code is not 200.

The tenth line data = json.loads(response.text) parses the JSON data from the response and assigns it to the data variable.

The eleventh line if "Error Message" in data: checks if the data contains an error message.

The twelfth line print(f"Error getting data for {ticker}. Error message: {data['Error Message']}") prints an error message if the data contains an error message.

The thirteenth line exit() exits the program if the data contains an error message.

The fourteenth line latest_data = data["Time Series (Daily)"] gets the latest close price for the stock.

The fifteenth line latest_date = list(latest_data.keys())[0] gets the date of the latest close price.

The sixteenth line latest_close_price = latest_data[latest_date]["4. close"] gets the latest close price.

The seventeenth line print(f"The latest close price for {ticker} is {latest_close_price}") prints the latest close price for the stock.

THANK YOU