CRYPTOCURENCY PRICE TRACKER

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PROJECT DESCRIPTION

Crypto Price Tracker is a Python project that fetches real-time cryptocurrency data using the CoinGecko API. It displays the current price, 24-hour change, and market capitalization of popular cryptocurrencies like Bitcoin, Ethereum, and Dogecoin, and saves the data to an Excel file for easy reference.

Features

1. Fetch Current Prices – Get the latest price of multiple cryptocurrencies.
2. 24-Hour Price Change – View the percentage change in price over the last 24 hours.
3. Market Capitalization – Check the current market cap of each cryptocurrency.
4. Excel Export – Save fetched data to an Excel file for analysis.
5. Multiple Coins Support – Track popular coins like Bitcoin, Ethereum, Dogecoin, and more.
6. Beginner-Friendly – Simple Python script, easy to run and understand.
7. Expandable – Add more coins or upgrade to real-time tracking if needed.

Technology Used

Python – Main programming language for scripting.

Requests – To fetch cryptocurrency data from CoinGecko API.

Pandas – To organize data and export it to Excel.

Openpyxl – To write data into Excel files.

CoinGecko API – Provides real-time cryptocurrency data (price, 24h change, market cap).

Outcomes

Terminal displays current prices, 24-hour change, and market capitalization of selected cryptocurrencies.

Excel file generated with all fetched data and timestamp.

Can track multiple coins at once.

Provides a snapshot of the cryptocurrency market for analysis.

Advantages

Easy to use – Simple Python script, beginner-friendly.

Time-saving – Quickly get cryptocurrency data without visiting multiple sites.

Expandable – Add more coins or convert into real-time tracker with minimal changes.

Data Analysis Ready – Excel export allows further analysis and record keeping.

Market Awareness – Helps investors or enthusiasts monitor trends effectively.

Workflow

Select cryptocurrencies to track (e.g., Bitcoin, Ethereum, Dogecoin).

Fetch current data (price, 24h change, market cap) from CoinGecko API.

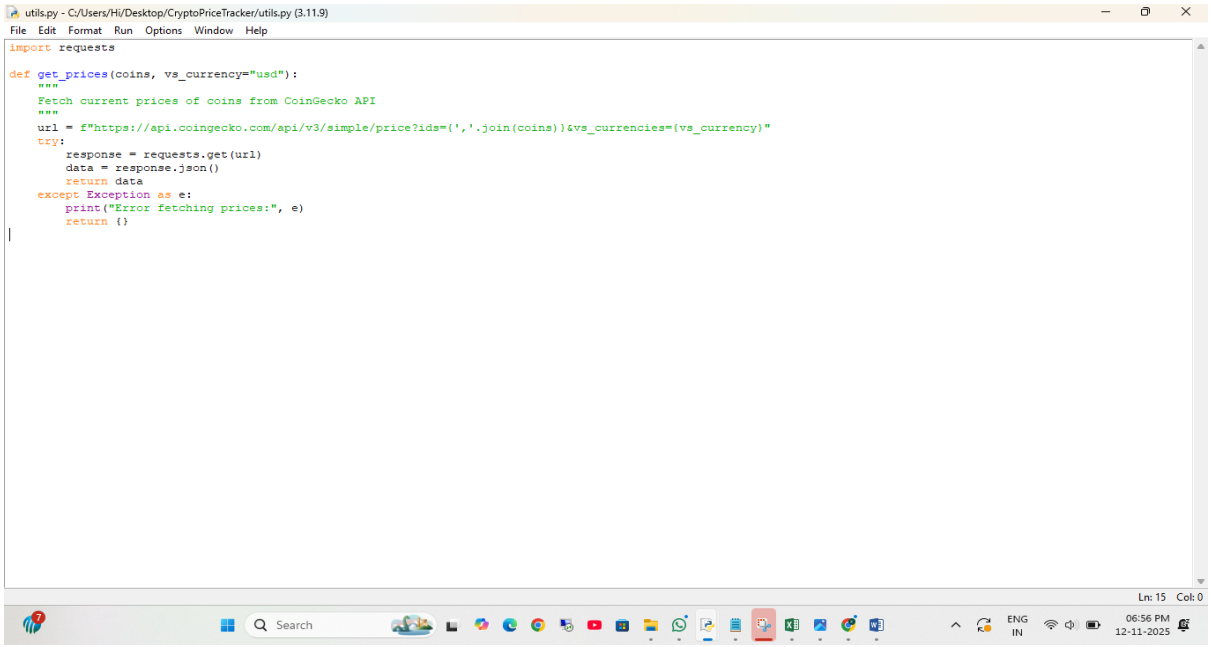
Process data using Python & Pandas.

Display data in idle.

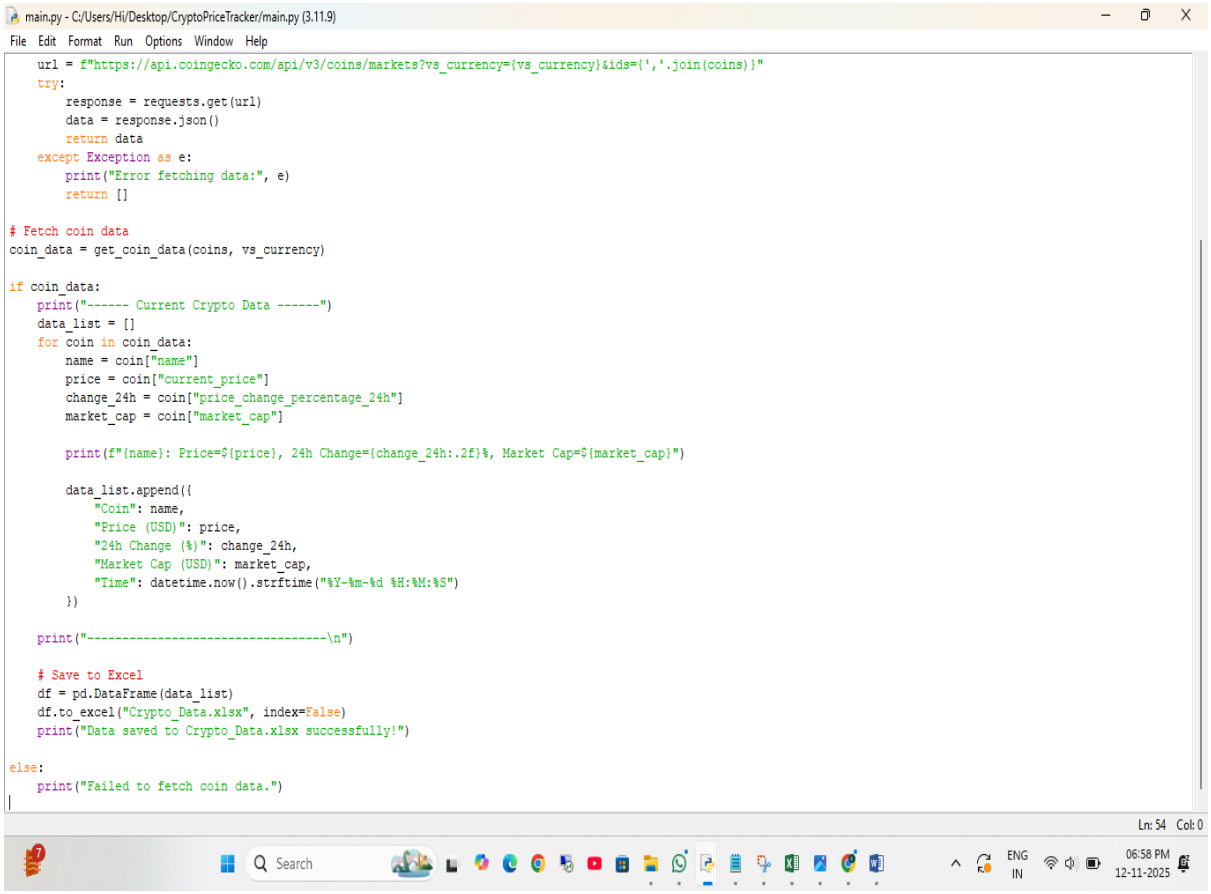
Save data to Excel file for reference.

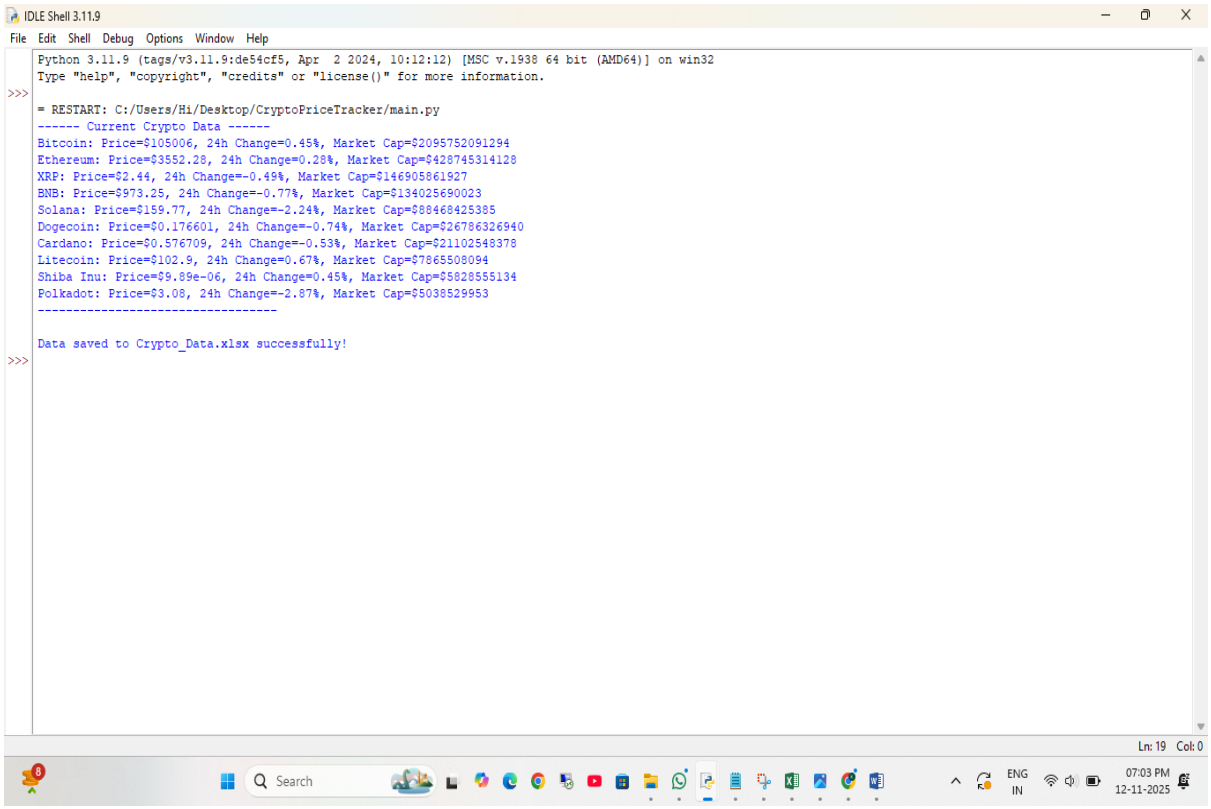
Optional: Add more coins, real-time updates, graphs, or GUI.

Source code: (utils.py)

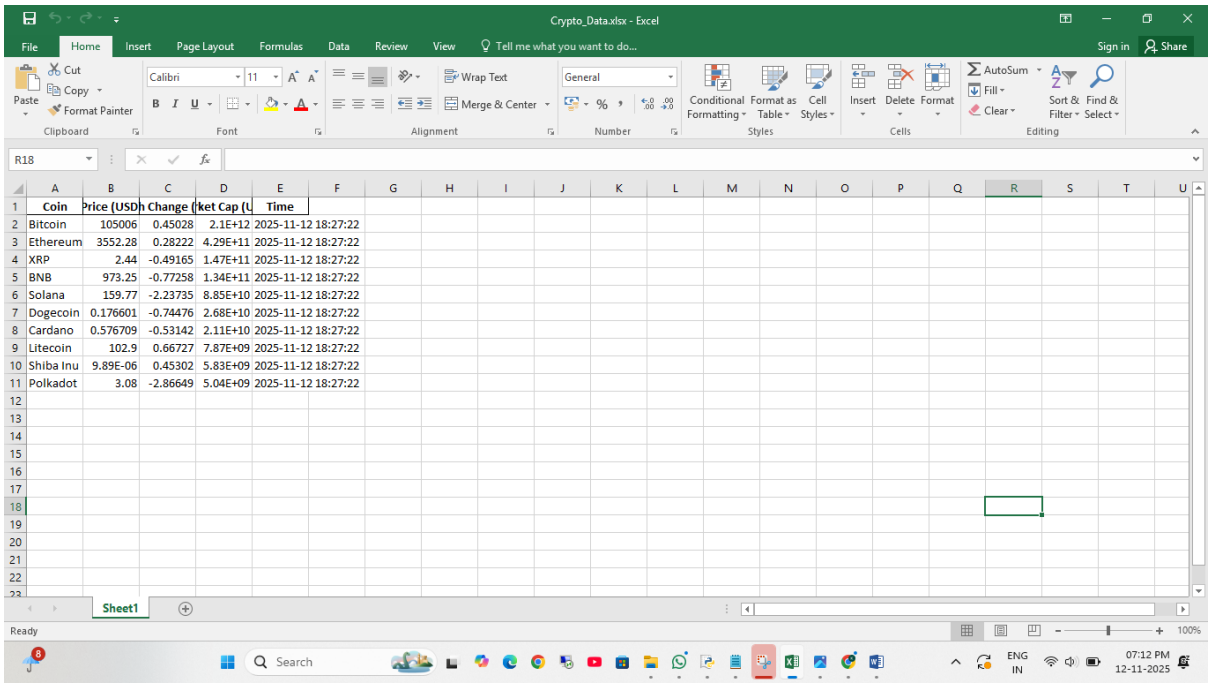


Main.py





CSV format screenshot



Module Description

1. main.py

Core script that fetches cryptocurrency data.

Displays current price, 24-hour change, and market capitalization.

Saves data to Excel file (Crypto_Data.xlsx).

2. utils.py (Optional)

Contains helper functions for API requests.

Makes code modular and reusable.

3. requirements.txt

Lists all required Python libraries (requests, pandas, openpyxl) for easy setup.

Future Enhancements

Real-time tracking – Update prices every 60 seconds or more frequently.

Graphical representation – Plot price changes using matplotlib.

GUI interface – Use Tkinter or PyQt for a professional look.

Price alerts – Notifications if price crosses a set threshold.

More coin support – Track additional cryptocurrencies as needed.

Historical analysis – Save data over time and analyze trends.

Source code:(main.py)

```
import requests
import pandas as pd
from datetime import datetime

# Coins to track
coins = ["bitcoin", "ethereum", "dogecoin", "litecoin", "ripple",
        "cardano", "solana", "binancecoin", "polkadot", "shiba-inu"]
vs_currency = "usd"

def get_coin_data(coins, vs_currency="usd"):
    """
    Fetch current price, 24h change, market cap from CoinGecko API
    """
    url =
f"https://api.coingecko.com/api/v3/coins/markets?vs_currency={vs_curre
ncy}&ids={','.join(coins)}"
    try:
        response = requests.get(url)
        data = response.json()
        return data
    except Exception as e:
        print("Error fetching data:", e)
        return []
```

```
# Fetch coin data
coin_data = get_coin_data(coins, vs_currency)

if coin_data:
    print("------ Current Crypto Data ------")
    data_list = []
    for coin in coin_data:
        name = coin["name"]
        price = coin["current_price"]
        change_24h = coin["price_change_percentage_24h"]
        market_cap = coin["market_cap"]

        print(f"{name}: Price=${price}, 24h Change={change_24h:.2f}%,
Market Cap=${market_cap}")

        data_list.append({
            "Coin": name,
            "Price (USD)": price,
            "24h Change (%)": change_24h,
            "Market Cap (USD)": market_cap,
            "Time": datetime.now().strftime("%Y-%m-%d %H:%M:%S")
        })

    print("---------------------------------\n")

    # Save to Excel
    df = pd.DataFrame(data_list)
```

```
    df.to_excel("Crypto_Data.xlsx", index=False)
    print("Data saved to Crypto_Data.xlsx successfully!")

else:
    print("Failed to fetch coin data.")
```

Conclusion:

The Crypto Price Tracker is a simple yet effective Python project that allows users to monitor cryptocurrency prices, 24-hour changes, and market capitalization in real-time. It provides a quick overview of the crypto market and saves the data for future analysis in an Excel file.

This project is beginner-friendly, modular, and easily expandable to include more coins, real-time updates, graphs, and a GUI interface, making it a practical tool for both learning and tracking cryptocurrencies.