REPORT

The goal of this assignment is to fetch live cryptocurrency data for the top 50 cryptocurrencies, analyse it, and present the data in a live-updating Excel sheet.

Libraries

- requests: Fetch data from the CoinGecko API.
- pandas: Manipulate and analyze the data.
- openpyxl: Write the processed data to an Excel file.
- time: Control the interval between data updates (every 5 minutes)

Data Collection: In order to fetch the live data I used , the **CoinGecko API** . Every five minutes, a query was made to the API to retrieve new data, which was subsequently processed and stored in an Excel document. Each cryptocurrency's name, symbol, market capitalization, trading volume, and 24-hour price change are all included in the statistics.

- **vs_currency**: Specifies that data should be in USD.
- **order**: Ensures the data is ordered by market capitalization in descending order.
- **per_page**: Fetches 50 cryptocurrencies.
- **page**: Requests the first page, containing the top 50 cryptocurrencies.

Data Analysis:

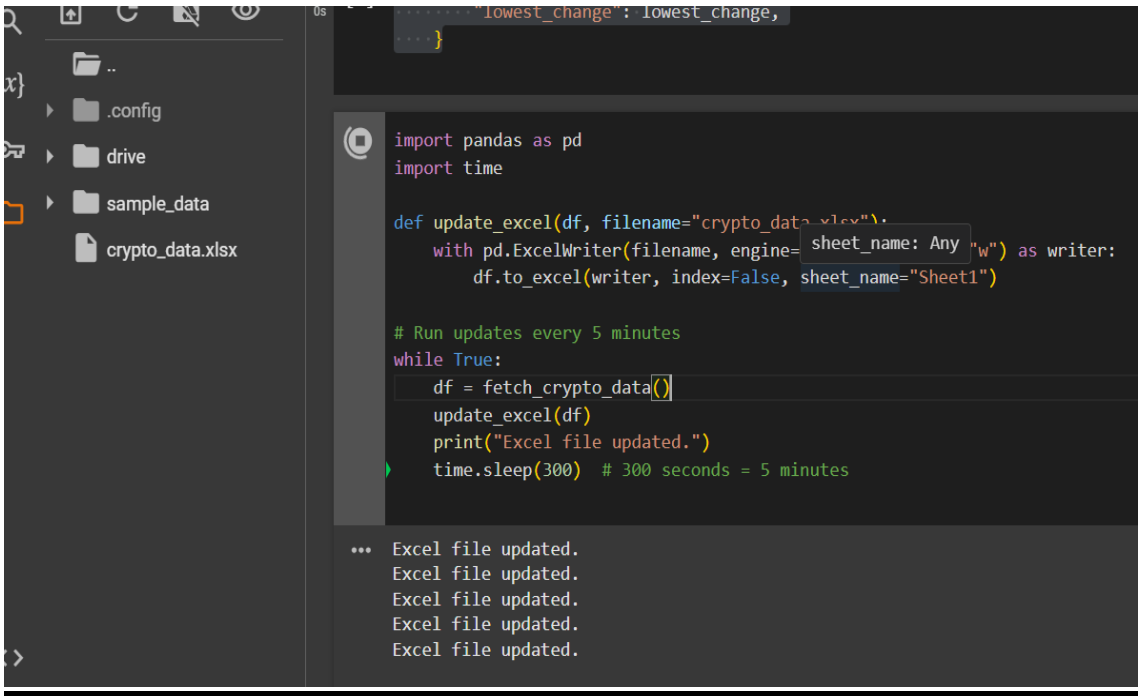
- The top five cryptocurrencies were analysed by looking at their market capitalization.
- Average Price: The average cost of the top 50 cryptocurrencies was determined.
- Analysis of Price Change: The largest and lowest 24-hour percentage price fluctuations were analysed.

Excel file Generation-: The data was saved in an Excel file named **crypto_data.xlsx**, with live updates every 5 minutes.

- Used of pandas and openpyxl to write the data to an Excel file
- Data Fetching: The CoinGecko API is used to retrieve cryptocurrency data every five minutes.

- Writing to Excel: The update_excel function overwrites any existing information in an Excel file (crypto_data.xlsx) with the updated data after it has been retrieved.
- Repeating the Process: The while True loop and the time let the process to repeat indefinitely, fetching and writing new data to the Excel file every five minutes, delay in sleep (300).

Outputs



A	B	C	D	E	F
name	symbol	current_price	market_cap	total_volume	price_change_percentage_24h
Bitcoin	btc	93315	1.8455E+12	59836303330	-2.13504
Ethereum	eth	3279.02	3.94601E+11	32101844179	-0.78559
Tether	usdt	0.999518	1.39707E+11	62155728107	0.02256
XRP	xrp	2.15	1.2273E+11	10134851413	-3.12986
BNB	bnb	672.91	97837415630	1847170999	2.58281
Solana	sol	181.62	86981469781	5675975505	-0.0122
Dogecoin	doge	0.305799	44975748529	4295399693	-2.05473
USDC	usdc	1	42948605989	7090282940	0.03156
Lido Stake	steth	3277.03	31773144746	176225554	-0.48412
Cardano	ada	0.867248	31003417297	1274936239	-2.10895
TRON	trx	0.247819	21343311948	1495311817	0.97348
Avalanche	avax	35.9	14691235474	549722988	-2.79976
Chainlink	link	22.21	13992780079	1456390656	1.99827