Data Analytics Project Using MySQL

This project analyzes stock market data using MySQL queries. The dataset contains information about NIFTY50 stocks, including opening and closing prices, market capitalization, trading volume, and sector classification. Below are the SQL queries and their outputs.

1. Count of Records

SQL Query:

```
SELECT COUNT(*) FROM stock_data;
```

```
+------------+
|   COUNT(*) |
|------------|
|      40250 |
+------------+
```

2. Unique Stock Names

SQL Query:

```
SELECT DISTINCT Stock_name FROM stock_data;
```

```
+----+--------------+
|    | Stock_name   |
|----+--------------|
|  0 | RELIANCE     |
|  1 | TCS          |
|  2 | INFY         |
|  3 | HDFC         |
|  4 | ICICIBANK    |
|  5 | SBIN         |
|  6 | HINDUNILVR   |
|  7 | BAJFINANCE   |
```

```
|  8 | WIPRO        |
|  9 | TATAMOTORS   |
+----+--------------+
```

3. Average Closing Price per Sector

SQL Query:

```
SELECT Sector, AVG(ClosePrice) FROM stock_data GROUP BY Sector;
```

```
+----+-----------------+--------------+
|    | Sector          |   ClosePrice |
|----+-----------------+--------------|
|  0 | Automobile      |      2783.63 |
|  1 | Banking         |      2752.4  |
|  2 | Consumer Goods  |      2725.5  |
|  3 | Energy          |      2751.75 |
|  4 | Finance         |      2753.97 |
|  5 | Infrastructure  |      2724.64 |
|  6 | Pharmaceuticals |      2711.53 |
|  7 | Steel           |      2746.95 |
|  8 | Technology      |      2763.24 |
|  9 | Telecom         |      2736.19 |
+----+-----------------+--------------+
```

4. Highest Trading Volume Stock

SQL Query:

```
SELECT Stock_name, Volume FROM stock_data ORDER BY Volume DESC LIMIT 1;
```

```
+--------------+------------+
| Stock_name   |     Volume |
|--------------+------------|
| ITC          | 9.9998e+06 |
+--------------+------------+
```

5. Top 5 Stocks by Market Cap

SQL Query:

```
SELECT Stock_name, Market_Cap FROM stock_data ORDER BY Market_Cap DESC LIMIT 5;
```

	Stock_name	Market_Cap
17861	LT	999998
17567	SUNPHARMA	999998
15528	COALINDIA	999971
17217	SUNPHARMA	999951
12116	MARUTI	999853

6. Daily Price Change for Each Stock

SQL Query:

```
SELECT Stock_name, Date, (ClosePrice - Open_Price) AS Price_Change FROM stock_data;
```

	Stock_name	Date	Price_Change
0	RELIANCE	01-01-2023	37.72
1	TCS	01-01-2023	7.4
2	INFY	01-01-2023	-56.23
3	HDFC	01-01-2023	-68.75
4	ICICIBANK	01-01-2023	-8.55
5	SBIN	01-01-2023	43.92
6	HINDUNILVR	01-01-2023	27.22
7	BAJFINANCE	01-01-2023	-24.75
8	WIPRO	01-01-2023	-0.42
9	TATAMOTORS	01-01-2023	2.15

7. Top 3 Stocks with Highest Price Fluctuation

SQL Query:

```
SELECT Stock_name, (HighPrice - LowPrice) AS Max_Fluctuation FROM stock_data ORDER BY Max_Fluctuation DESC LIMIT 3;
```

	Stock_name	Max_Fluctuation
10875	INDUSINDBK	585.42
23219	TITAN	578.32
9848	DLF	559.47

8. Total Trading Volume Per Sector

SQL Query:

```
SELECT Sector, SUM(Volume) FROM stock_data GROUP BY Sector;
```

	Sector	Volume
0	Automobile	16166591447
1	Banking	36517002980
2	Consumer Goods	15888547997
3	Energy	16329482958
4	Finance	40563747262
5	Infrastructure	11962298489
6	Pharmaceuticals	8077140186
7	Steel	12209987838
8	Technology	28175500356
9	Telecom	16525966744

9. Stock with Highest Market Cap Growth

SQL Query:

```
SELECT Stock_name, MAX(Market_Cap) - MIN(Market_Cap) AS Market_Cap_Growth FROM stock_data GROUP BY Stock_name ORDER BY Market_Cap_Growth DESC LIMIT 1;
```

	Stock_name	Market_Cap
32	MARUTI	899604