# Stock Market Analysis Report

# Introduction

# This report presents an analysis of historical data for the NIFTY 50 index from February 1, 2022, to February 13, 2024. The analysis includes visualization of price trends, pivot tables for Open-Close and High-Low prices, and predictions for future prices using linear regression.

# Data Source

# Historical data: NIFTY 50\_Historical\_PR\_01022022to13022024.csv

# Exported Data: monthly\_grouped\_data.csv

# Combined Data: combined\_data.csv

# Pivot Table Visualizations: pivot\_table\_visualizations.png

# Analysis



# Data Exploration

Initial data exploration and visualization.

Importing necessary libraries and data from the CSV file.

Printing the dataframe for initial inspection.

# Export to CSV

Exporting the processed data to a CSV file named 'monthly\_grouped\_data.csv'.

# Pivot Tables

Creating pivot tables for Date vs. Open-Close and Date vs. High-Low prices.

Displaying the pivot tables for analysis.

# Price Prediction

Using linear regression to predict prices for the next 10 days.

Fit the linear regression model and predict prices.

Displaying predicted prices for the next 10 days.

Combine and Export Data

Combining existing and predicted data.

Saving the combined data to a CSV file named 'combined\_data.csv'.

# Pivot Table Visualizations

Visualizing pivot tables using bar charts.

Saving the visualizations as 'pivot\_table\_visualizations.png'.

Conclusion

This analysis provides insights into historical price trends for the NIFTY 50 index and predicts future prices using linear regression. The generated visualizations aid in understanding price movements and patterns over time.