**KIET GROUP OF INSTITUTION**

**PROJECT TITLE- STOCK PRICE MOVEMENT ANALYSIS**

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Introduction

Stock price movements are influenced by various factors, including market trends, economic indicators, and investor sentiment. This report aims to analyse the price movement of selected stocks using historical data and visual representations. The objective is to identify trends and patterns that could be useful for investment decisions.

**Methodology**

**The analysis follows these steps:**

1. **Data Collection: Extract historical stock price data using a financial API (e.g., Yahoo Finance, Alpha Vantage).**
2. **Data Processing: Clean and format the data for visualization.**
3. **Visualization: Use Python libraries like Matplotlib and Seaborn to create graphs.**
4. **Interpretation: Analyse stock price trends based on the generated plots.**

**Code Typed**

import pandas as pd

import numpy as np

import matplotlib.pyplot as plt

import seaborn as sns

# Function to load stock data from CSV

def load\_stock\_data(file\_path):

    data = pd.read\_csv('stock\_data.csv')

    data['Date'] = pd.to\_datetime(data['Date'])

    data.set\_index('Date')

    return data

# Function to calculate moving averages

def calculate\_moving\_averages(data, short\_window=20, long\_window=50):

    data['Short\_MA'] = data['Close'].rolling(window=short\_window).mean()

    data['Long\_MA'] = data['Close'].rolling(window=long\_window).mean()

    return data

# Function to plot stock price and moving averages

def plot\_stock\_data(data, stock\_name):

    plt.figure(figsize=(12,6))

    plt.plot(data['Close'], label='Close Price', color='blue')

    plt.plot(data['Short\_MA'], label='20-day MA', color='red', linestyle='dashed')

    plt.plot(data['Long\_MA'], label='50-day MA', color='green', linestyle='dashed')

    plt.title(f'Stock Price Movement for {stock\_name}')

    plt.xlabel('Date')

    plt.ylabel('Price')

    plt.legend()

    plt.grid()

    plt.show()

# Main function to execute analysis

def main():

    file\_path = 'stock\_data.csv'  # Change to your CSV file path

    stock\_name = 'Stock'  # Change to your stock name

    stock\_data = load\_stock\_data(file\_path)

    stock\_data = calculate\_moving\_averages(stock\_data)

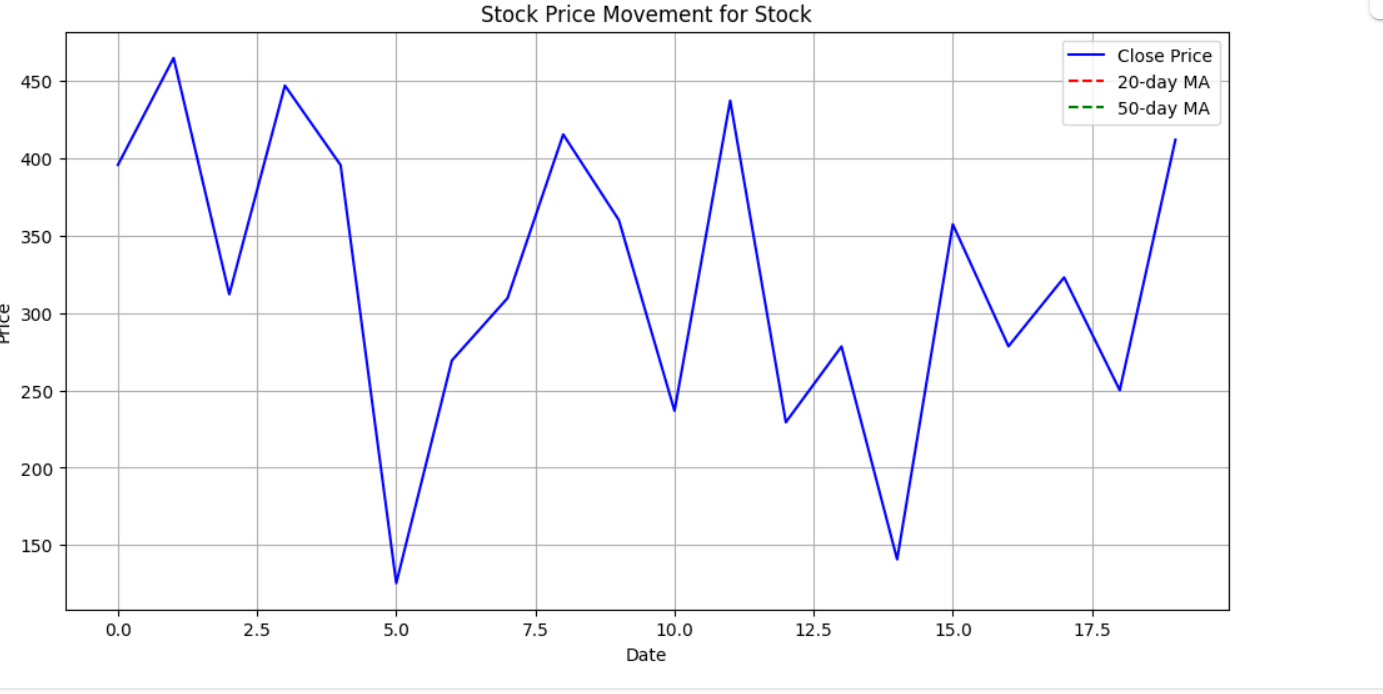
    plot\_stock\_data(stock\_data, stock\_name)

# Run the analysis

if \_\_name\_\_ == "\_\_main\_\_":

    main()

**Screenshots Output Photo Pasted**

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