# Importing necessary l

import pandas as pd

import matplotlib.pyplot as plt

from statsmodels.tsa.statespace.sarimax import SARIMAX

import warnings

warnings.filterwarnings('ignore')

# Load your dataset (assuming you have a CSV file named 'stock\_data.csv' with 'Date' and 'Close' columns)

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

# Preprocessing the data (assuming 'Date' is in datetime format and 'Close' is the closing price)

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

data.set\_index('Date', inplace=True)

# Splitting data into training and testing sets (80% training, 20% testing)

train\_size = int(len(data) \* 0.8)

train\_data, test\_data = data.iloc[:train\_size], data.iloc[train\_size:]

# Fit the SARIMAX model

model = SARIMAX(train\_data['Close'], order=(5,1,0)) # Adjust the order as needed

sarimax\_model = model.fit()

# Make predictions

predictions = sarimax\_model.predict(start=len(train\_data), end=len(train\_data)+len(test\_data)-1, typ='levels')

# Plotting the results

plt.figure(figsize=(10, 6))

plt.plot(train\_data.index, train\_data['Close'], label='Train')

plt.plot(test\_data.index, test\_data['Close'], label='Test')

plt.plot(test\_data.index, predictions, label='Predictions', color='red')

plt.title('Stock Market Forecast')

plt.xlabel('Date')

plt.ylabel('Close Price')

plt.legend()

plt.show()