Experiment -36

Scenario: You are a data analyst working for a finance company. Your team is interested in analysing the variability of stock prices for a particular company over a certain period. The company's stock data includes the closing prices for each trading day of the specified period.

Question: Your task is to build a Python program that reads the stock data from a CSV file, calculates the variability of stock prices, and provides insights into the stock's price movements.

Code

```
import pandas as pd

import os

file_path = input("Enter the path of your CSV file: ")

if not os.path.exists(file_path):

    print("Error: File not found! Please check the file name or path.")

    exit()

data = pd.read_csv(file_path)

if "Close" not in data.columns:

    print("Error: 'Close' column not found in the CSV file.")

    exit()

closing_prices = data["Close"]

average_price = closing_prices.mean()

price_variability = closing_prices.std()

print("Average Closing Price:", round(average_price, 2))

print("Price Variability (Standard Deviation):", round(price_variability, 2))

if price_variability < 2:

    print("Stock is stable with very low fluctuations.")

elif price_variability < 5:

    print("Stock shows moderate fluctuations.")

else:

    print("Stock is highly volatile.")
```

Output:

```
Enter the path of your CSV file: /content/stock_data.csv
Average Closing Price: 102.0
Price Variability (Standard Deviation): 1.58
Stock is stable with very low fluctuations.
```