```
import matplotlib.pyplot as plt
import pandas as pd

df = pd.read_csv("Datasets-main\sample.csv")


df.head()
df.describe()


def calculate_statistics(data):
    statistics = {
        'mean': data.mean(),
        'median': data.median(),
        'mode': data.mode().iloc[0],
        'std_dev': data.std(),
        'correlation': data.corr()
    }
    return statistics

def histogram(data, column):
    plt.hist(data[column])
    plt.title(f'Histogram of {column}')
    plt.xlabel(column)
    plt.ylabel('Frequency')
    plt.show()

def scatter_plot(data, column1, column2):
    plt.scatter(data[column1], data[column2])
    plt.title(f'Scatter Plot of {column1} vs {column2}')
    plt.xlabel(column1)
```

```
    plt.ylabel(column2)
    plt.show()

def line_plot(data, column):
    plt.plot(data[column])
    plt.title(f'Line Plot of {column}')
    plt.xlabel('Index')
    plt.ylabel(column)
    plt.show()



data = str(calculate_statistics(df))
data
histogram(df,'Physics')
scatter_plot(df,'Physics','Maths')
line_plot(df,'Physics')



import os
import openai
from getpass import getpass
from langchain_openai import OpenAI
from langchain_openai import ChatOpenAI
from langchain.chat_models import ChatOpenAI
from langchain.schema import HumanMessage


os.environ["OPENAI_API_KEY"] = getpass("Enter your OpenAI API key: ")
openai.api_key=os.getenv("OPENAI_API_KEY")
```

```
llm_model = "gpt-3.5-turbo"
prompt = data
messages = [HumanMessage(content=prompt)]
chat_model = ChatOpenAI(temperature=0.7)
response=chat_model.invoke(messages)
print(type(response))
print(response)

question = input()



messages.append(HumanMessage(content=question))
response=chat_model.invoke(messages)
print(response.content)
```