Practical-4

write a program Reading data from text files, Excel and the web and exploring various commands for doing descriptive analytics on the Iris data set

STEP 1: Import Required Libraries

```
import pandas as pd
import numpy as np
```

STEP 2: Reading Iris Data from a TEXT FILE (CSV)

2.1 Upload CSV File (Colab only)

```
from google.colab import files
files.upload()
```

2.2 Read CSV File

STEP 3: Reading Iris Data from EXCEL FILE

3.1 Upload Excel File

```
files.upload()
```

3.2 Read Excel File

```
df_excel = pd.read_excel("iris.xlsx")
df_excel.head()
```

STEP 4: Reading Iris Data from the WEB

4.1 Load Data Directly from URL

```
url = "https://raw.githubusercontent.com/mwaskom/seaborn-
data/master/iris.csv"
df_web = pd.read_csv(url)
df_web.head()
```

STEP 5: Basic Dataset Information

```
df_web.shape
```

STEP 6: Descriptive Statistics (Numerical Summary)

```
df_web.describe()
```

STEP 7: Mean, Median, Mode

```
df_web.mean(numeric_only=True)
df_web.median(numeric_only=True)
df_web.mode()
```

STEP 8: Standard Deviation & Variance

```
df_web.std(numeric_only=True)
df_web.var(numeric_only=True)
```

STEP 9: Skewness & Kurtosis

```
df_web.skew(numeric_only=True)
df_web.kurtosis(numeric_only=True)
```

STEP 10: Frequency Count (Categorical Data)

```
df_web['species'].value_counts()
```

STEP 11: Group-wise Descriptive Analytics

```
df_web.groupby('species').mean()
```

STEP 12: Correlation Analysis

```
df_web.corr(numeric_only=True)
```

STEP 13: Detect Missing Values

```
df_web.isnull().sum()
```

STEP 14: Sample Data Selection

```
df_web[['sepal_length', 'petal_length']].head()
```