Practical-5

(1) Given dataset "Iris Dataset"

Using Python:

a) Load the dataset into a Pandas DataFrame.
b) Select only the numerical variables (sepal_length, sepal_width, petal_length, petal_width).
c) Compute and display the correlation matrix.
d) Visualize the correlation matrix using a heatmap.

Filename: iris_dataset.csv

sepal_length,sepal_width,petal_length,petal_width,species

5.1,3.5,1.4,0.2,setosa

4.9,3.0,1.4,0.2,setosa

4.7,3.2,1.3,0.2,setosa

4.6,3.1,1.5,0.2,setosa

5.0,3.6,1.4,0.2,setosa

5.4,3.9,1.7,0.4,setosa

4.6,3.4,1.4,0.3,setosa

5.0,3.4,1.5,0.2,setosa

4.4,2.9,1.4,0.2,setosa

4.9,3.1,1.5,0.1,setosa

5.4,3.7,1.5,0.2,setosa

4.8,3.4,1.6,0.2,setosa

4.8,3.0,1.4,0.1,setosa

4.3,3.0,1.1,0.1,setosa

5.8,4.0,1.2,0.2,setosa

5.7,4.4,1.5,0.4,setosa

5.4,3.9,1.3,0.4,setosa

5.1,3.5,1.4,0.3,setosa

5.7,3.8,1.7,0.3,setosa

5.1,3.8,1.5,0.3,setosa

5.4,3.4,1.7,0.2,setosa

5.1,3.7,1.5,0.4,setosa

4.6,3.6,1.0,0.2,setosa

5.1,3.3,1.7,0.5,setosa

4.8,3.4,1.9,0.2,setosa

5.0,3.0,1.6,0.2,setosa

5.0,3.4,1.6,0.4,setosa

5.2,3.5,1.5,0.2,setosa

5.2,3.4,1.4,0.2,setosa

4.7,3.2,1.6,0.2,setosa

4.8,3.1,1.6,0.2,setosa

5.4,3.4,1.5,0.4,setosa

5.2,4.1,1.5,0.1,setosa

5.5,4.2,1.4,0.2,setosa

4.9,3.1,1.5,0.1,setosa

5.0,3.2,1.2,0.2,setosa

5.5,3.5,1.3,0.2,setosa

4.9,3.6,1.4,0.1,setosa

4.4,3.0,1.3,0.2,setosa

5.1,3.4,1.5,0.2,setosa

5.0,3.5,1.3,0.3,setosa

4.5,2.3,1.3,0.3,setosa

4.4,3.2,1.3,0.2,setosa

5.0,3.5,1.6,0.6,setosa

5.1,3.8,1.9,0.4,setosa

4.8,3.0,1.4,0.3,setosa

5.1,3.8,1.6,0.2,setosa

4.6,3.2,1.4,0.2,setosa

5.3,3.7,1.5,0.2,setosa

5.0,3.3,1.4,0.2,setosa

7.0,3.2,4.7,1.4,versicolor

6.4,3.2,4.5,1.5,versicolor

6.9,3.1,4.9,1.5,versicolor

5.5,2.3,4.0,1.3,versicolor

6.5,2.8,4.6,1.5,versicolor

5.7,2.8,4.5,1.3,versicolor

6.3,3.3,4.7,1.6,versicolor

4.9,2.4,3.3,1.0,versicolor

6.6,2.9,4.6,1.3,versicolor

5.2,2.7,3.9,1.4,versicolor

5.0,2.0,3.5,1.0,versicolor

5.9,3.0,4.2,1.5,versicolor

6.0,2.2,4.0,1.0,versicolor

6.1,2.9,4.7,1.4,versicolor

5.6,2.9,3.6,1.3,versicolor

6.7,3.1,4.4,1.4,versicolor

5.6,3.0,4.5,1.5,versicolor

5.8,2.7,4.1,1.0,versicolor

6.2,2.2,4.5,1.5,versicolor

5.6,2.5,3.9,1.1,versicolor

5.9,3.2,4.8,1.8,versicolor

6.1,2.8,4.0,1.3,versicolor

6.3,2.5,4.9,1.5,versicolor

6.1,2.8,4.7,1.2,versicolor

6.4,2.9,4.3,1.3,versicolor

6.6,3.0,4.4,1.4,versicolor

6.8,2.8,4.8,1.4,versicolor

6.7,3.0,5.0,1.7,versicolor

6.0,2.9,4.5,1.5,versicolor

5.7,2.6,3.5,1.0,versicolor

7.6,3.0,6.6,2.1,virginica

7.3,2.9,6.3,1.8,virginica

6.7,2.5,5.8,1.8,virginica

7.2,3.6,6.1,2.5,virginica

6.5,3.2,5.1,2.0,virginica

6.4,2.7,5.3,1.9,virginica

6.8,3.0,5.5,2.1,virginica

6.7,3.3,5.7,2.5,virginica

6.7,3.0,5.2,2.3,virginica

6.3,2.5,5.0,1.9,virginica

6.5,3.0,5.5,2.0,virginica

7.6,3.0,6.6,2.1,virginica

6.4,3.2,5.3,2.3,virginica

5.7,2.5,5.0,2.0,virginica

5.8,2.8,5.1,2.4,virginica

6.4,2.8,5.6,2.2,virginica

6.5,3.2,5.1,2.0,virginica

7.7,3.8,6.7,2.2,virginica

7.7,2.6,6.9,2.3,virginica

6.0,2.2,5.0,1.5,virginica

6.9,3.2,5.7,2.3,virginica

6.1,2.8,4.9,1.8,virginica

6.3,2.7,4.9,1.8,virginica

6.1,2.6,5.6,1.4,virginica

7.2,3.0,5.8,1.6,virginica

7.2,3.2,6.0,1.8,virginica

7.4,2.8,6.1,1.9,virginica

7.9,3.8,6.4,2.0,virginica

6.4,2.8,5.6,2.2,virginica

6.3,2.8,5.1,1.5,virginica

6.1,2.6,5.6,1.4,virginica

(2). Given data on x and y, examine correlation coefficient between them.

X	Y
2	12
3	11
1	15
5	7
6	5
7	3