

Data Science with Python

Day 02 - Activity

Use the given iris.csv dataset to answer below questions

1. Matplotlib

- I. Plot the sepal length of the Iris dataset against the corresponding index values
- II. Create a scatter plot to plot the sepal length and width of the Iris dataset against each other.
- III. Using a bar graph plot the number of flowers of each species in the Iris dataset.
- IV. Create two plots side by side, one for the sepal length and width, and the other for the petal length and width
- V. How to add text labels to a (or to the above scatter plot) plot?
- VI. How to add annotations to the above plot?
- VII. How to adjust the font size, color, and style?
- VIII. How to customize the default style and appearance of Matplotlib plots?
- IX. How to change the font, colors, and markers of a plot?
- X. How to save a plot to a file in different formats, such as PNG, PDF, and SVG?

Use the world happiness.csv dataset to answer below questions

2. Pandas

- I. Remove duplicates based on the Country column:
- II. Fill in missing values using the mean value of the column:
- III. How can you create a line plot of the Happiness Score column in the World Happiness dataset using Pandas?
- IV. How can you create a bar plot of the average Happiness Score by Region in the World Happiness dataset using Pandas
- V. How can you create a scatter plot of the Happiness Score column against the Economy (GDP per Capita) column in the World Happiness dataset using Pandas?
- VI. Box plot and a Violin plot of happiness score by region
- VII. Heatmap of correlations between variables

Use the 'iris.csv' dataset for below questions

3. Seaborn

- I. What is the distribution of the sepal length in the iris dataset?
- II. How do the petal length and width vary across the three species in the iris dataset?
- III. How can we visualize the correlation matrix between the four features in the iris dataset?

4. Plotly

- I. What is the distribution of petal length and width in the iris dataset?
- II. How do the sepal length and width vary across the three species in the iris dataset?
- III. How are sepal length, sepal width, and petal length related in the iris dataset for each species using a 3D scatter plot?