**Iris classification**

import sklearn

import numpy as np

import pandas as pd

import matplotlib.pyplot as plt

import seaborn as sns

import warnings

warnings.filterwarnings('ignore')

!pip install seaborn

!pip install scikit-learn==1.3.0

from google.colab import files

uploaded = files.upload()

df = pd.read\_csv('Iris.csv')

df.head()

df = df.drop(columns = ['Id'])

df.head()

df.describe()

df.info()

df['Species'].value\_counts()

df.isnull().sum()

df['SepalLengthCm'].hist()

df['SepalWidthCm'].hist()

df['PetalLengthCm'].hist()

df['PetalWidthCm'].hist()

colors = ['red', 'orange', 'blue']

species = ['virginica', 'versicolor', 'setosa']

for i in range(3):

  df.plot(kind="scatter", x="SepalLengthCm", y="SepalWidthCm", c = colors[i], label=species[i])

sns.set\_style("whitegrid")

sns.FacetGrid(df, hue ="Species",

      height = 6).map(plt.scatter,

              'SepalLengthCm',

              'PetalLengthCm').add\_legend()

sns.set\_style("whitegrid")

sns.FacetGrid(df, hue ="Species",

      height = 6).map(plt.scatter,

              'SepalWidthCm',

              'PetalWidthCm').add\_legend()

sns.set\_style("whitegrid")

sns.FacetGrid(df, hue ="Species",

      height = 6).map(plt.scatter,

              'PetalLengthCm',

              'PetalWidthCm').add\_legend()

sns.set\_style("whitegrid")

sns.FacetGrid(df, hue ="Species",

      height = 6).map(plt.scatter,

              'SepalLengthCm',

              'SepalWidthCm').add\_legend()

df.corr()

sns.boxplot(x="Species", y="PetalLengthCm", data=df)

plt.show()

ax= sns.boxplot(x="Species", y="PetalLengthCm", data=df)

ax= sns.stripplot(x="Species", y="PetalLengthCm", data=df, jitter=True, edgecolor="gray")

plt.show()

sns.violinplot(x="Species", y="PetalLengthCm",palette={"blue","red","yellow"}, data=df)

plt.show()

sns.FacetGrid(df, hue="Species") \

   .map(sns.kdeplot, "PetalLengthCm") \

   .add\_legend()

plt.show()

sns.pairplot(df.drop("Id", axis=1), hue="Species", size=3)

plt.show()

sns.pairplot(df.drop("Id", axis=1), hue="Species", size=3, diag\_kind="kde")

plt.show()

sns.jointplot(x="SepalLengthCm", y="SepalWidthCm", data=df, size=10,ratio=10, kind='hex',color='green')

plt.show()

df.drop("Id", axis=1).boxplot(by="Species", figsize=(10, 10))

plt.show()

from pandas.tools.plotting import andrews\_curves

andrews\_curves(df.drop("Id", axis=1), "Species",colormap='rainbow')

plt.show()

from pandas.tools.plotting import radviz

radviz(iris.drop("Id", axis=1), "Species",colormap='autumn')

plt.show()

from pandas.tools.plotting import parallel\_coordinates

parallel\_coordinates(iris.drop("Id", axis=1), "Species",colormap='cool')

plt.show()