

PYTHON ASSIGNMENT

B191900

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import pandas as pd
df=pd.read_csv("iris.csv")
import matplotlib.pyplot as pg
v=df['variety'].value_counts()
v=dict(v)
k=['iris setosa', 'iris versicolor','iris virginica']
j=v.values()
fig=pg.figure(figsize=(10,10))
pg.pie(x=j,labels=k, explode=[0.1,0.1,0.1],autopct='%1.1f%%',shadow=True,)
pg.title('iris.species%')

pg.legend()
pg.show()
import itertools
l1=df['sepal.length']
l2=df['variety']
l3=df['sepal.width']
setosal=[]
setosaw=[]
Virginical=[]
Virginicaw=[]
Versicolorl=[]
Versicolorw=[]

for (i,j,k) in zip(l1,l2,l3):
    if j=="Setosa":
        setosal.append(i)
        setosaw.append(k)
    elif j=="Virginica":
        Virginical.append(i)
        Virginicaw.append(k)
    else:
        Versicolorl.append(i)
        Versicolorw.append(k)
```

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# print(setosa)
# print(Versicolorl)
# print(Virginical)
fig=pg.figure(figsize=(7,5))
pg.title("The Iris Data Set")
u=pg.scatter(setosa, setosaw, color='red')
v=pg.scatter(Virginical, Virginicaw, color='blue')
z=pg.scatter(Versicolorl, Versicolorw, color='green')
pg.ylabel('sepal.width')
pg.xlabel('sepal.length')
pg.grid(linestyle = '--')
pg.legend([u,v,z], ['Setosa', 'Virginica', 'Versicolor'])
pg.show()
import itertools
l1=df['petal.length']
l2=df['variety']
l3=df['petal.width']
setosapl=[]
setosapw=[]
Virginicapl=[]
Virginicapw=[]
Versicolorpl=[]
Versicolorpw=[]

for (i,j,k) in zip(l1,l2,l3):
    if j=="Setosa":
        setosapl.append(i)
        setosapw.append(k)
    elif j=="Virginica":
        Virginicapl.append(i)
        Virginicapw.append(k)
    else:
        Versicolorpl.append(i)
        Versicolorpw.append(k)
# print(setosapl)
# print(Versicolorpl)
# print(Virginicapl)
y=['sepal.length', 'sepal.width', 'petal.length', 'petal.width']
x=["Setosa", "Virginica", "Versicolor"]
df2=df.groupby('variety').agg('mean')
df2.head()

df2.T.plot(kind='bar')

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pg.xticks(rotation='horizontal')
pg.legend(loc='center left', bbox_to_anchor=(1, 0.85))
pg.xlabel("Features")
pg.ylabel('value in cm')
fig=pg.figure(figsize=(10,8))
pg.title("Iris Histograms")
pg.subplot(2,2,1)
pg.hist(df['sepal.length'])
pg.xlabel('sepal length(cm)')
pg.ylabel('Frequency')
#pg.tight_layout()
pg.subplot(2,2,2)
pg.hist(df['sepal.width'],color = "orange")
pg.xlabel('sepal width(cm)')
pg.ylabel('Frequency')
pg.subplot(2,2,3)
pg.hist(df['petal.length'],color = "Green")
pg.xlabel('petal length(cm)')
pg.ylabel('Frequency')
pg.subplot(2,2,4)
pg.hist(df['petal.width'],color = "Red")
pg.xlabel('petal width(cm)')
pg.ylabel('Frequency')

```



