HW1 Business Analysis

Shengya Zhang

Python

Prepare

dataset: iris.csv

python packages: numpy

pandas

matplotlib

seaborn

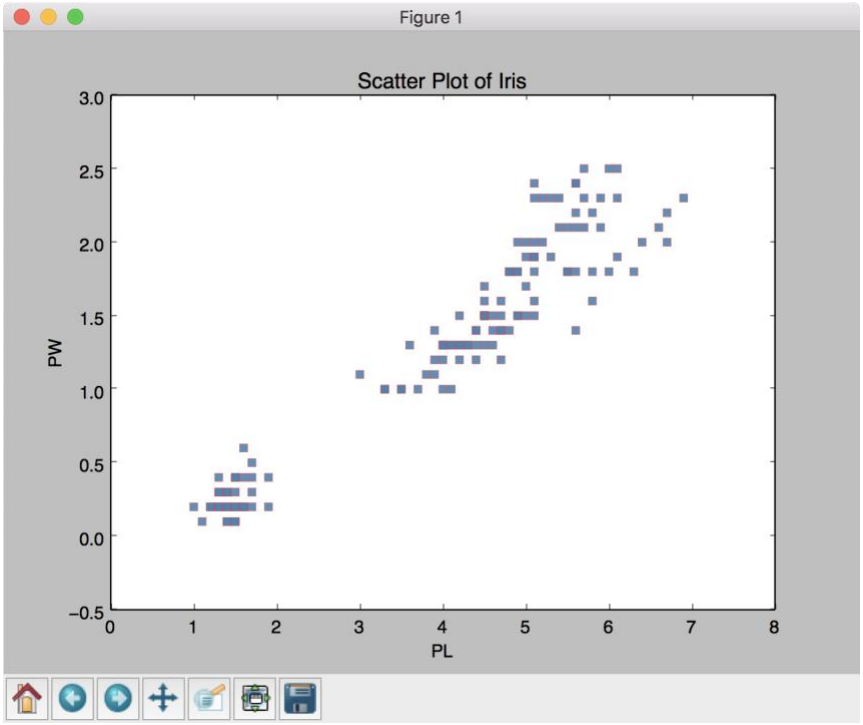
environment: Pycharm

solution:

1. *Scatter plot*

```
## HW1 BusinessAnalysis
## Shengya Zhang
import matplotlib.pyplot as plt
import pandas as pd

iris = pd.read_csv('Iris.csv')
iris.columns = ['SL','SW','PL','PW','SP']
print(iris)

plt.scatter(iris.PL, iris.PW, s = 30,c = 'steelblue', marker = 's',
                alpha = 0.9, linewidths = 0.3, edgecolors = 'red')
plt.title('Scatter Plot of Iris')
plt.xlabel('PL')
plt.ylabel('PW')
plt.show()
```

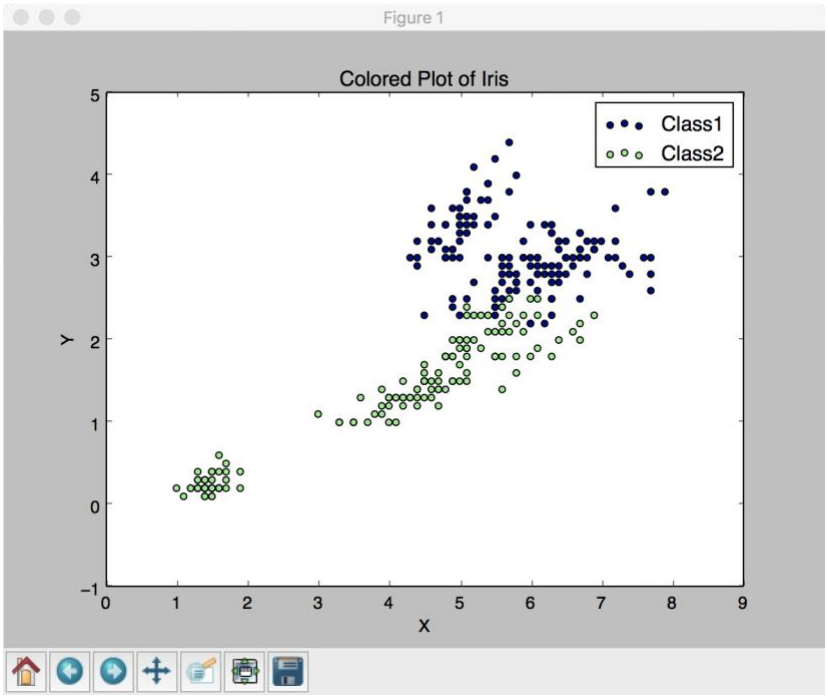
Figure of solution 1



2. *Colored scatter Plot*

```
## HW1 BusinessAnalysis

## Shengya Zhang


import pandas as pd

import matplotlib.pyplot as plt


iris = pd.read_csv('Iris.csv')

iris.columns = ['SL','SW','PL','PW','SP']


ax = iris.plot.scatter(x='SL',y='SW',color='DarkBlue',label='Class1')

iris.plot.scatter(x='PL',y='PW',color='LightGreen',label='Class2',ax=ax)

plt.title('Colored Plot of Iris')

plt.xlabel('X')

plt.ylabel('Y')

plt.show()
```

Figure of solution 2

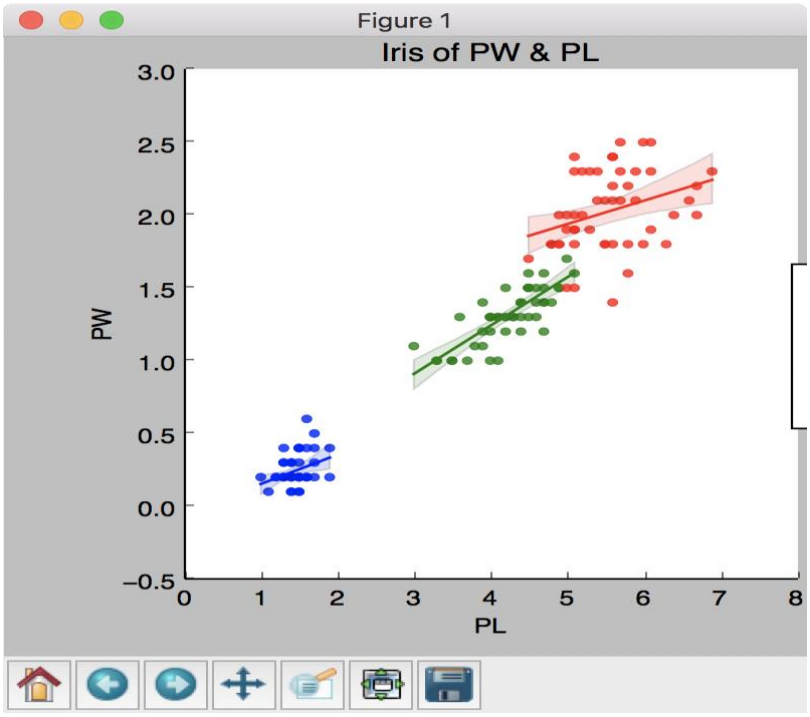


3. *Smoothed line plot*

```
## HW1 BusinessAnalysis

## Shengya Zhang


import pandas as pd

import matplotlib.pyplot as plt

import seaborn as sns

# install csv file

iris = pd.read_csv('iris.csv')

iris.columns = ['SL','SW','PL','PW','SP']


sns.lmplot(x="PL", y="PW", hue="SP", truncate=True, data=iris)

plt.xlabel('PL')

plt.ylabel('PW')
```

```
plt.title('Iris of PW & PL')

plt.show()
```

Figure of solution 3

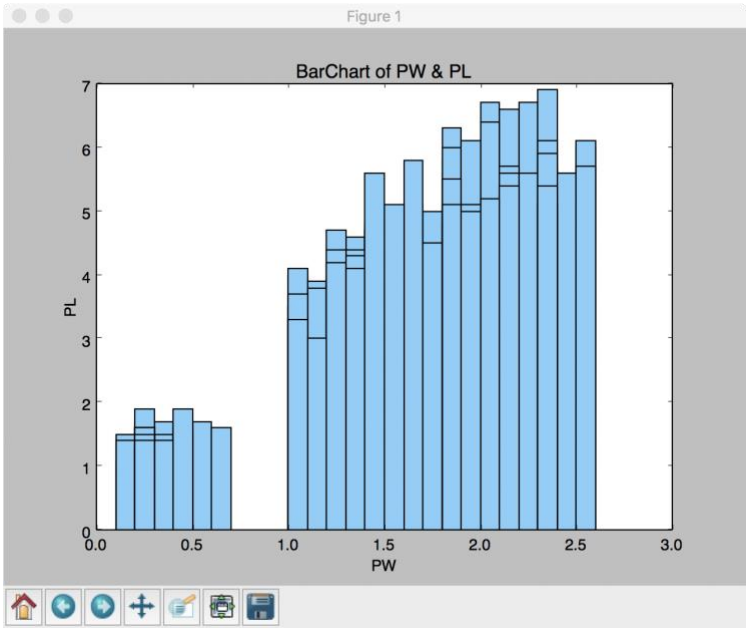


4. *Bar chart*

```
## HW1 BusinessAnalysis

## Shengya Zhang


import pandas as pd

import matplotlib.pyplot as plt


# install csv file

iris = pd.read_csv('iris.csv')

iris.columns = ['SL','SW','PL','PW','SP']

# print data of files, make sure it has been installed

print(iris)
```

```
# bar chart
X = iris.PW
Y1 = iris.PL
plt.bar(X, Y1,width = 0.1,facecolor='#87CEFA')
plt.xlabel('PW')
plt.ylabel('PL')
plt.title('Iris of PW & PL')
plt.show()
```

Figure of solution 4



5. *Box plot*

```
## HW1 BusinessAnalysis
## Shengya Zhang

import pandas as pd
import matplotlib.pyplot as plt
# install csv file
iris = pd.read_csv('iris.csv')
```

```
iris.columns = ['SL','SW','PL','PW','SP']

# print data of files, make sure it has been installed

print(iris)

iris.plot(kind='box')

plt.title('BoxPlot of Iris')

plt.xlabel('Label')

plt.ylabel('Value')

plt.show()
```

Figure of solution 5