

Python小练习：绘制散点图并添加基线

作者：凯鲁嘎吉 - 博客园 <http://www.cnblogs.com/kailugaji/>

1. plot_scatter_test.py

```
1 # -*- coding: utf-8 -*-
2 # Author: 凯鲁嘎吉 Coral Gajic
3 # https://www.cnblogs.com/kailugaji/
4 # Python绘制散点图
5 import matplotlib.pyplot as plt
6 plt.rc('font', family='Times New Roman')
7 import numpy as np
8
9 def plot_scatter(x, y, baseline, label):
10     min_x, max_x = x.min(), x.max()
11     plt.scatter(x, y,
12                 s = 5, # 点的大小
13                 color = 'red',
14                 marker='.', # 默认'o'
15                 label = label)
16     print('-----绘制散点图', label, '-----')
17     # 绘制额外的虚线baseline
18     if baseline == 'no':
19         pass
20     elif baseline == 'y=x':
21         plt.plot([min_x, max_x], [min_x, max_x], # x: [min_x, max_x], y: [min_x, max_x]
22                 color = 'gray',
23                 ls = '--',
24                 label = baseline,
25                 alpha = 0.3)
26     elif baseline == 'y=0':
27         plt.plot([min_x, max_x], [0, 0], # x: [min_x, max_x], y: [0, 0]
28                 color = 'gray',
29                 ls = '--',
30                 label = baseline,
31                 alpha = 0.3)
32     else:
33         raise NotImplementedError
34     print('-----绘制基准线', baseline, '-----')
35     plt.grid(ls='--')
36
```

```
37 x = np.linspace(-1, 1, 150, endpoint=True)
38 y = np.sin(x)
39 label = 'y=sin(x)'
40 baseline = 'y=x'
41 plot_scatter(x, y, baseline, label)
42 # 添加x轴和y轴标签
43 plt.xlabel('x')
44 plt.ylabel('y')
45 plt.legend()
46 plt.savefig('Scatter Diagram.png', bbox_inches='tight', dpi=600)
47 plt.show()
```

2. 结果

D:\ProgramData\Anaconda3\python.exe "D:/Python code/2023.3 exercise/Scatter/plot_scatter_test.py"

-----绘制散点图 y=sin(x) -----
-----绘制基准线 y=x -----

Process finished with exit code 0

