

# 热力图

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## Contents

导入第三方库并产生数据

```
1 import os
2 import numpy as np
3 import pandas as pd
4 import matplotlib.pyplot as plt
5 import seaborn as sns
6
7 data = pd.DataFrame(data=np.random.randn(3, 5),
8                     index=list("abc"),
9                     columns=list("ABCDE"))
10 corr_matrix = data.corr()
```

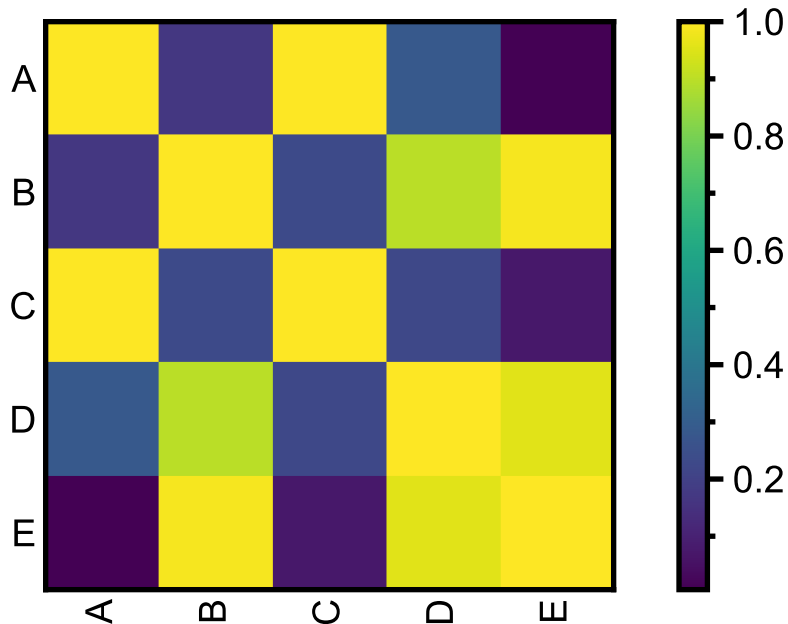
使用 matplotlib 的 imshow()

```
1 # 方法 1
2 fig = plt.figure()
3 axes = fig.add_subplot(111)
4 ax_tmp = axes.imshow(corr_matrix.abs()) #! 显示绝对值
5 axes.set_xticks(range(len(corr_matrix.columns)), corr_matrix.columns)
6 axes.set_xticklabels(corr_matrix.columns, rotation=90)
7 axes.set_yticks(range(len(corr_matrix.columns)), corr_matrix.columns)
8 axes.tick_params(axis="both", which="both", bottom=False, left=False)
```

```

9 ax_tmp = fig.colorbar(ax_tmp, ax=axes) # 绘制 colorbar
10 ax_tmp.ax.tick_params(axis="both", which="both", direction="out")
11 ax_tmp.ax.tick_params(axis="both", which="major", length=6)

```



使用 seaborn 的 heatmap()

```

1 # 方法 2
2 fig = plt.figure()
3 axes = fig.add_subplot(111)
4 ax = sns.heatmap(
5     data=corr_matrix.abs(),
6     ax=axes, # 注意要将 heatmap 赋予到 axes 对象
7     annot=True, # 显示数值
8     fmt=".2f",
9     cbar_kws=dict(location="top"),
10    cmap="YlGn",
11    vmin=0,
12    vmax=1,
13 )
14 axes.tick_params(axis="both", which="both", left=False, bottom=False)
15
16 cbar = ax.collections[0].colorbar #! 获取 colorbar 对象

```

```

17 cbar.ax.tick_params(which="both", direction="out")
18 cbar.ax.tick_params(which="major", length=6)
19 cbar.ax.set_xlim(0, 1)
20 plt.xticks(rotation=60) # 旋转 x 标签
21 plt.show()

```

