import matplotlib.pyplot as plt

plt.rcParams['font.sans-serif'] = ['SimHei'] # 指定默认字体

plt.rcParams['axes.unicode\_minus'] = False # 解决保存图像是负号 '-' 显示为方块的问题

# 2月花销

expenses\_feb = {

'Food': 200,

'Transport': 50,

'Entertainment': 75,

'Shopping': 100,

'Others': 50

}

# 3月花销

expenses\_mar = {

'Food': 180,

'Transport': 60,

'Entertainment': 90,

'Shopping': 120,

'Others': 70

}

# 4月花销

expenses\_apr = {

'Food': 210,

'Transport': 55,

'Entertainment': 85,

'Shopping': 130,

'Others': 60

}

# 绘制饼图函数

def plot\_expenses(expenses, month):

labels = list(expenses.keys())

sizes = list(expenses.values())

explode = (0.1, 0, 0, 0, 0) # 使食物的部分稍微凸出

plt.figure(figsize=(7, 7))

plt.pie(sizes, explode=explode, labels=labels, autopct='%1.1f%%', shadow=True, startangle=140)

plt.title(f'Expenses for {month}')

plt.show()

# 绘制2月、3月和4月的花销饼图

plot\_expenses(expenses\_feb, '徐昊博21013134二月')

plot\_expenses(expenses\_mar, '徐昊博21013134三月')

plot\_expenses(expenses\_apr, '徐昊博21013134四月')

import tkinter as tk

from tkinter import filedialog

import pandas as pd

import matplotlib.pyplot as plt

# 设置中文字体

plt.rcParams['font.sans-serif'] = ['SimHei'] # 指定默认字体

plt.rcParams['axes.unicode\_minus'] = False # 解决保存图像是负号 '-' 显示为方块的问题

class FinancialDataApp:

def \_\_init\_\_(self, root):

self.root = root

self.root.title("Financial Data App")

self.data = None

self.load\_button = tk.Button(root, text="读入数据", command=self.load\_data)

self.load\_button.pack(pady=10)

self.scatter\_button = tk.Button(root, text="画散点图", command=self.plot\_scatter)

self.scatter\_button.pack(pady=10)

self.bar\_button = tk.Button(root, text="画柱形图", command=self.plot\_bar)

self.bar\_button.pack(pady=10)

def load\_data(self):

file\_path = filedialog.askopenfilename()

if file\_path:

self.data = pd.read\_csv(file\_path)

print(f"数据已加载: {file\_path}")

def plot\_scatter(self):

if self.data is not None:

plt.figure()

# 设置字体为支持中文的字体

plt.scatter(self.data['x'], self.data['y'])

plt.xlabel('X 轴')

plt.ylabel('Y 轴')

plt.title('散点图徐昊博21013134')

plt.show()

else:

print("请先读入数据")

def plot\_bar(self):

if self.data is not None:

plt.figure()

plt.bar(self.data['x'], self.data['y'])

plt.xlabel('X 轴')

plt.ylabel('Y 轴')

plt.title('柱形图徐昊博21013134')

plt.show()

else:

print("请先读入数据")

if \_\_name\_\_ == "\_\_main\_\_":

root = tk.Tk()

app = FinancialDataApp(root)

root.mainloop()