

联系人输出练习：

```
main.py U X  emails.txt
main.py > ...
1 def read_contacts(file_path):
2     try:
3         with open(file_path, "r", encoding="utf-8") as file:
4             contacts = []
5             for line in file:
6                 name, gender, email = line.strip().split()
7                 contacts.append((name, gender, email))
8             return contacts
9     except FileNotFoundError:
10        print(f"错误: 未找到 {file_path} 文件。")
11        return []
12    except Exception as e:
13        print(f"错误: 读取文件时发生未知错误 {e}。")
14        return []
15
16
17 def generate_emails(contacts):
18     emails = []
19     for name, gender, email in sorted(
20         contacts, key=lambda x: (x[2].split("@")[1], x[2].split("@")[0])
21     ):
22         title = "先生" if gender == "男" else "女士"
23         email_content = f"to: <{email}>\n尊敬的{name}{title}, 您的会员资格即将到期, 请及时续费。 \n---\n"
24         emails.append(email_content)
25     return emails
26
27
28 def write_emails(emails, output_file):
29     try:
30         with open(output_file, "w", encoding="utf-8") as file:
31             for email in emails:
32                 file.write(email)
33             print(f"已成功将邮件内容写入 {output_file}。")
34     except Exception as e:
35         print(f"错误: 写入文件 {output_file} 时发生未知错误 {e}。")
36
37
38 if __name__ == "__main__":
39     contacts = read_contacts("contacts.txt")
40     if contacts:
41         emails = generate_emails(contacts)
42         write_emails(emails, "emails.txt")
```

```
15312@MINGW64 ~/repo/week04 (main)
$ cat emails.txt
to: <guofurong@126.com>
尊敬的郭芙蓉女士, 您的会员资格即将到期, 请及时续费。
---
to: <lvqinghou@126.com>
尊敬的吕轻侯先生, 您的会员资格即将到期, 请及时续费。
---
to: <baizhantang@163.com>
尊敬的白展堂先生, 您的会员资格即将到期, 请及时续费。
---
to: <lixiluan@163.com>
尊敬的李秀莲先生, 您的会员资格即将到期, 请及时续费。
---
to: <tongxiangyu@163.com>
尊敬的佟湘玉女士, 您的会员资格即将到期, 请及时续费。
---
to: <zhuwushuang@163.com>
尊敬的祝无双女士, 您的会员资格即将到期, 请及时续费。
---
(week04)
```

调试器：

```
(week04)
15312@MINGW64 ~/repo/week04 (main)
$ python -m pdb main.py
> c:\users\15312\repo\week04\main.py(1)<module>()
-> def read_contacts(file_path):
(Pdb)
```

l-list:显示即将运行但是还没有运行的代码 ll 显示全部代码

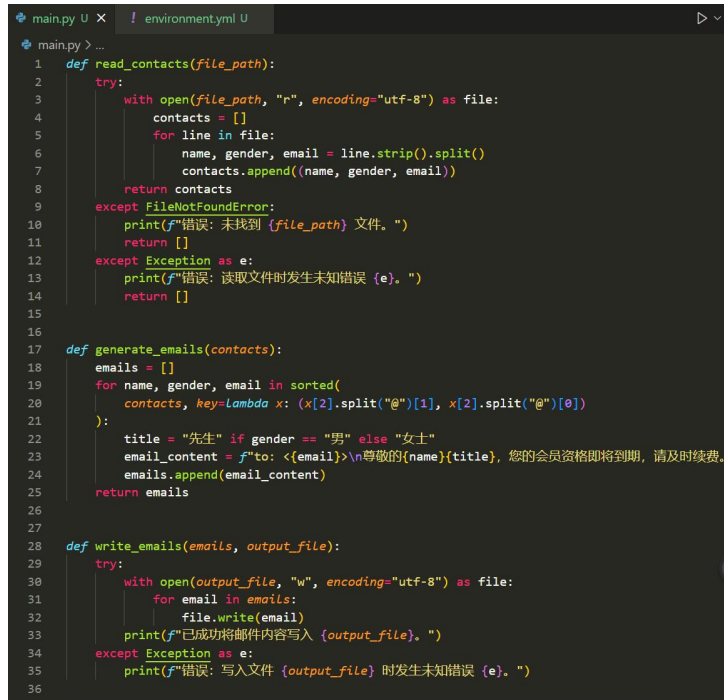
```
(Pdb) l
1 -> def read_contacts(file_path):
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5             for line in file:
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8             return contacts
9     except FileNotFoundError:
10        print(f"错误: 未找到 {file_path} 文件。")
11        return []
```

n-next one: 执行当前行

p-print: 显示表达式/变量内容 pp 美观打印

S-step in: 步入调用

Q_quit: 离开



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35         print(f"错误: 写入文件 {output_file} 时发生未知错误 {e}。")
36
```

红色: python 保留字

1-14 行为一个大语句, 可以语句嵌套

绿色: 函数

白色: 变量名

黄色: 字符串

缩进: 子语句 使框架更美观

局部变量: 使用 `wat()` 进行检查

全局变量: 使用 `wat.global` 进行检查

橙色: 形参

LEGB 规则: Local 局部 Enclosing 闭包 Global 全局 Built-in 内置