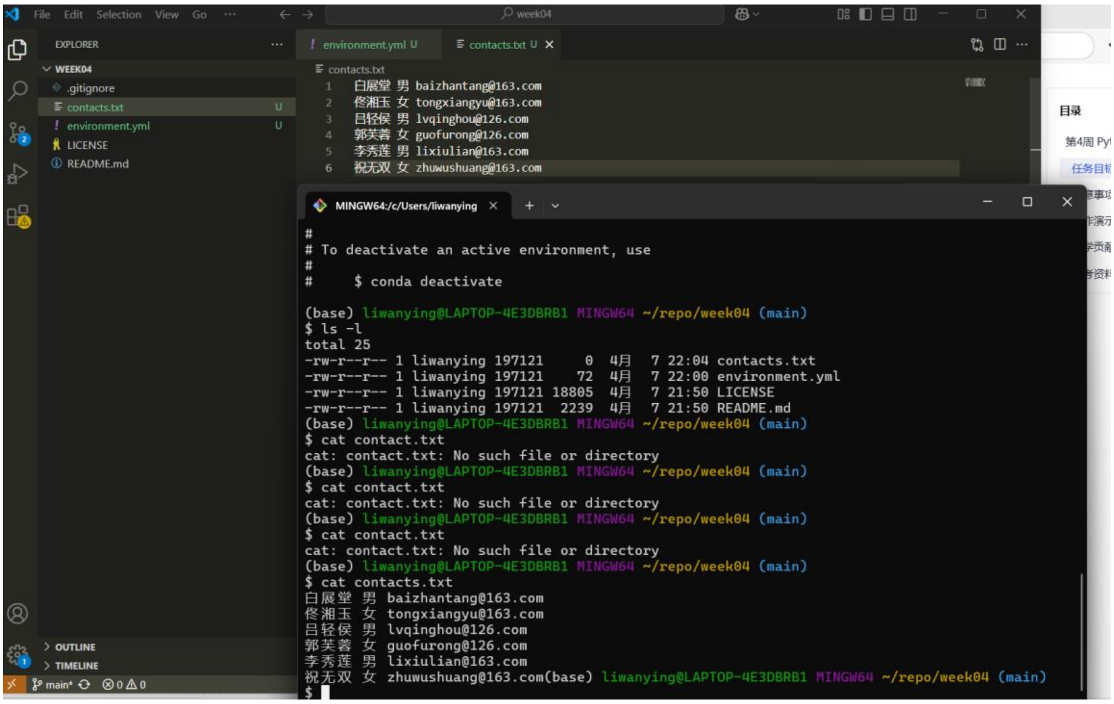
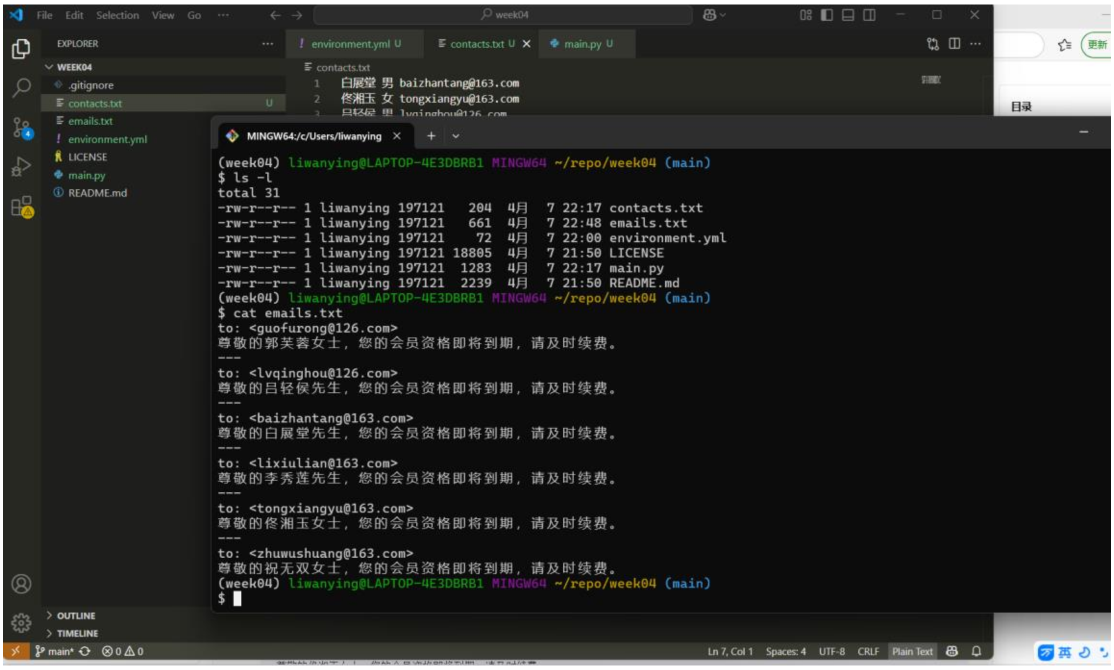
学习笔记



contacts.txt

```
白展堂 男 baizhantang@163.com
佟湘玉 女 tongxiangyu@163.com
吕轻侯 男 lvqinghou@126.com
郭芙蓉 女 guofurong@126.com
李秀莲 男 lixiulian@163.com
祝无双 女 zhuwushuang@163.com
```

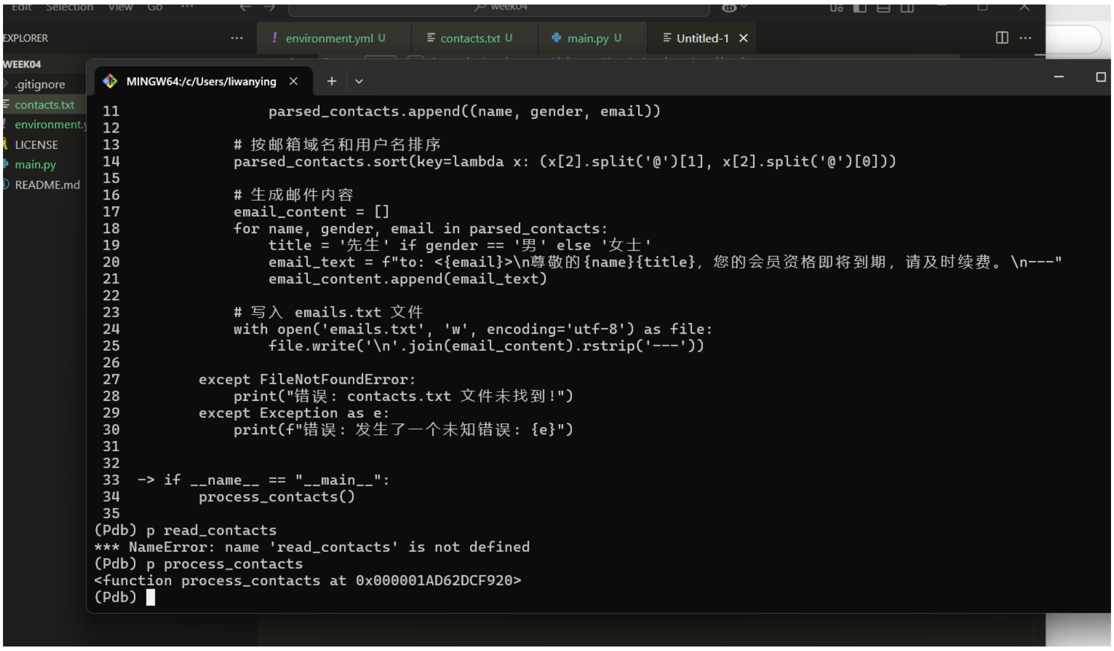
```
#
# To deactivate an active environment, use
#
#     $ conda deactivate

(base) liwanying@LAPTOP-4E3DBRB1 MINGW64 ~/repo/week04 (main)
$ ls -l
total 25
-rw-r--r-- 1 liwanying 197121     0  4月   7 22:04 contacts.txt
-rw-r--r-- 1 liwanying 197121    72  4月   7 22:00 environment.yml
-rw-r--r-- 1 liwanying 197121 18805  4月   7 21:50 LICENSE
-rw-r--r-- 1 liwanying 197121  2239  4月   7 21:50 README.md
(base) liwanying@LAPTOP-4E3DBRB1 MINGW64 ~/repo/week04 (main)
$ cat contact.txt
cat: contact.txt: No such file or directory
(base) liwanying@LAPTOP-4E3DBRB1 MINGW64 ~/repo/week04 (main)
$ cat contact.txt
cat: contact.txt: No such file or directory
(base) liwanying@LAPTOP-4E3DBRB1 MINGW64 ~/repo/week04 (main)
$ cat contact.txt
cat: contact.txt: No such file or directory
(base) liwanying@LAPTOP-4E3DBRB1 MINGW64 ~/repo/week04 (main)
$ cat contacts.txt
白展堂 男 baizhantang@163.com
佟湘玉 女 tongxiangyu@163.com
吕轻侯 男 lvqinghou@126.com
郭芙蓉 女 guofurong@126.com
李秀莲 男 lixiulian@163.com
祝无双 女 zhuwushuang@163.com(base) liwanying@LAPTOP-4E3DBRB1 MINGW64 ~/repo/week04 (main)
$ 
```



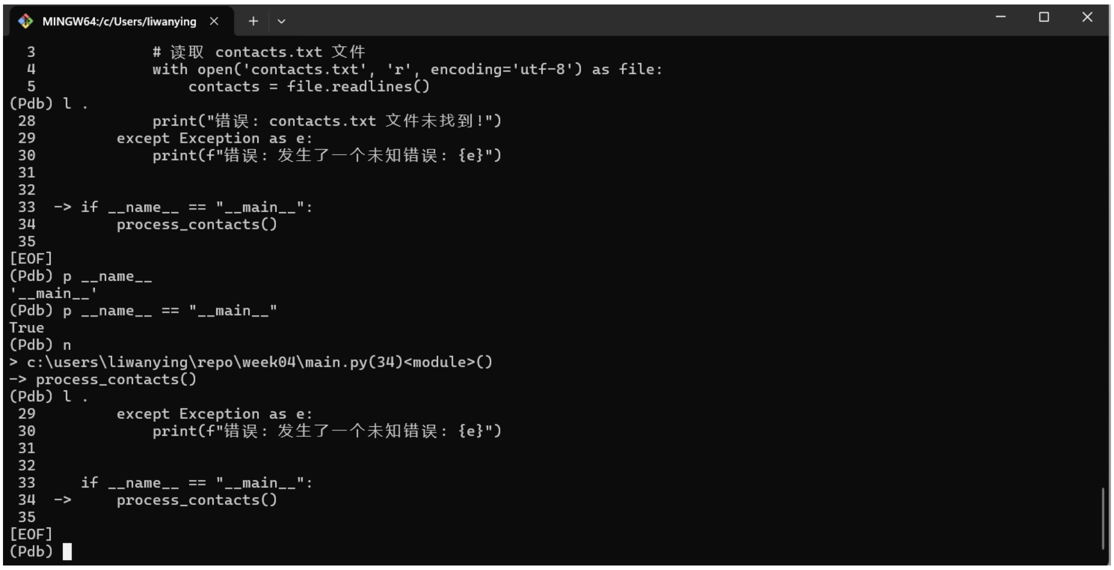
contacts.txt

```
白展堂 男 baizhantang@163.com
佟湘玉 女 tongxiangyu@163.com
吕轻侯 男 lvqinghou@126.com
```

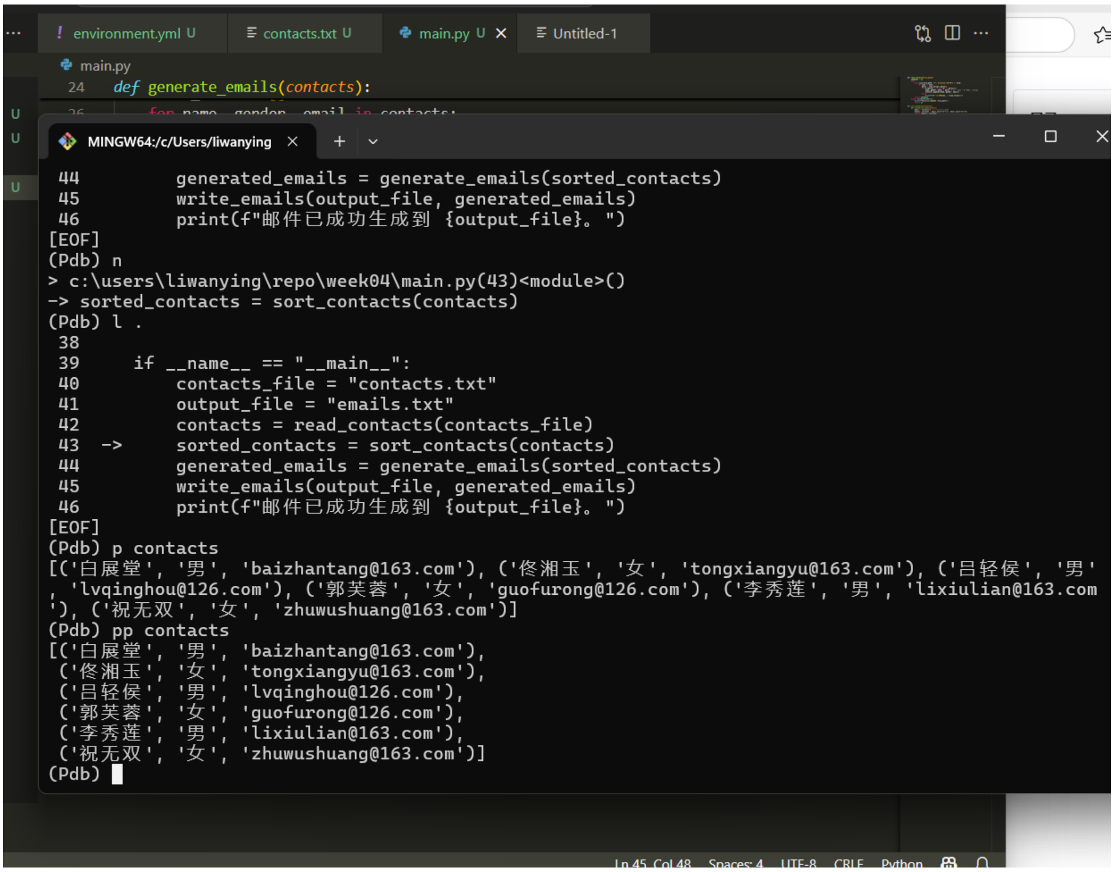
```
(week04) liwanying@LAPTOP-4E3DBRB1 MINGW64 ~/repo/week04 (main)
$ ls -l
total 31
-rw-r--r-- 1 liwanying 197121   204  4月   7 22:17 contacts.txt
-rw-r--r-- 1 liwanying 197121   661  4月   7 22:48 emails.txt
-rw-r--r-- 1 liwanying 197121    72  4月   7 22:00 environment.yml
-rw-r--r-- 1 liwanying 197121 18805  4月   7 21:50 LICENSE
-rw-r--r-- 1 liwanying 197121  1283  4月   7 22:17 main.py
-rw-r--r-- 1 liwanying 197121  2239  4月   7 21:50 README.md
(week04) liwanying@LAPTOP-4E3DBRB1 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: <lixiulian@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) liwanying@LAPTOP-4E3DBRB1 MINGW64 ~/repo/week04 (main)
$ 
```



```
 11                 parsed_contacts.append((name, gender, email))
 12
 13             # 按邮箱域名和用户名排序
 14             parsed_contacts.sort(key=lambda x: (x[2].split('@')[1], x[2].split('@')[0]))
 15
 16             # 生成邮件内容
 17             email_content = []
 18             for name, gender, email in parsed_contacts:
 19                 title = '先生' if gender == '男' else '女士'
 20                 email_text = 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---"
 21                 email_content.append(email_text)
 22
 23             # 写入 emails.txt 文件
 24             with open('emails.txt', 'w', encoding='utf-8') as file:
 25                 file.write('\n'.join(email_content).rstrip('---'))
 26
 27         except FileNotFoundError:
 28             print("错误：contacts.txt 文件未找到！")
 29         except Exception as e:
 30             print(f"错误：发生了一个未知错误：{e}")
 31
 32
 33  -> if __name__ == "__main__":
 34         process_contacts()
 35
(Pdb) p read_contacts
*** NameError: name 'read_contacts' is not defined
(Pdb) p process_contacts
<function process_contacts at 0x000001AD62DCF920>
(Pdb)
```

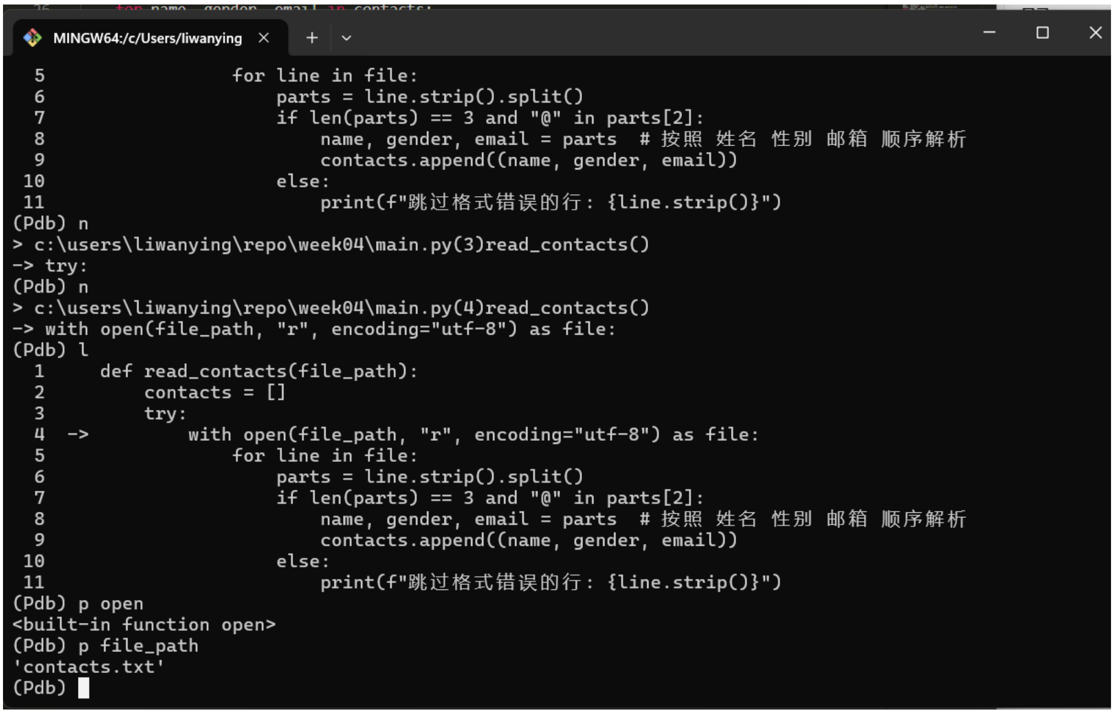


```
  3             # 读取 contacts.txt 文件
  4             with open('contacts.txt', 'r', encoding='utf-8') as file:
  5                 contacts = file.readlines()
(Pdb) l .
 28             print("错误：contacts.txt 文件未找到！")
 29         except Exception as e:
 30             print(f"错误：发生了一个未知错误：{e}")
 31
 32
 33  -> if __name__ == "__main__":
 34         process_contacts()
 35
[EOF]
(Pdb) p __name__
'__main__'
(Pdb) p __name__ == "__main__"
True
(Pdb) n
> c:\users\liwanying\repo\week04\main.py(34)<module>()
-> process_contacts()
(Pdb) l .
 29         except Exception as e:
 30             print(f"错误：发生了一个未知错误：{e}")
 31
 32
 33     if __name__ == "__main__":
 34  ->     process_contacts()
 35
[EOF]
(Pdb)
```

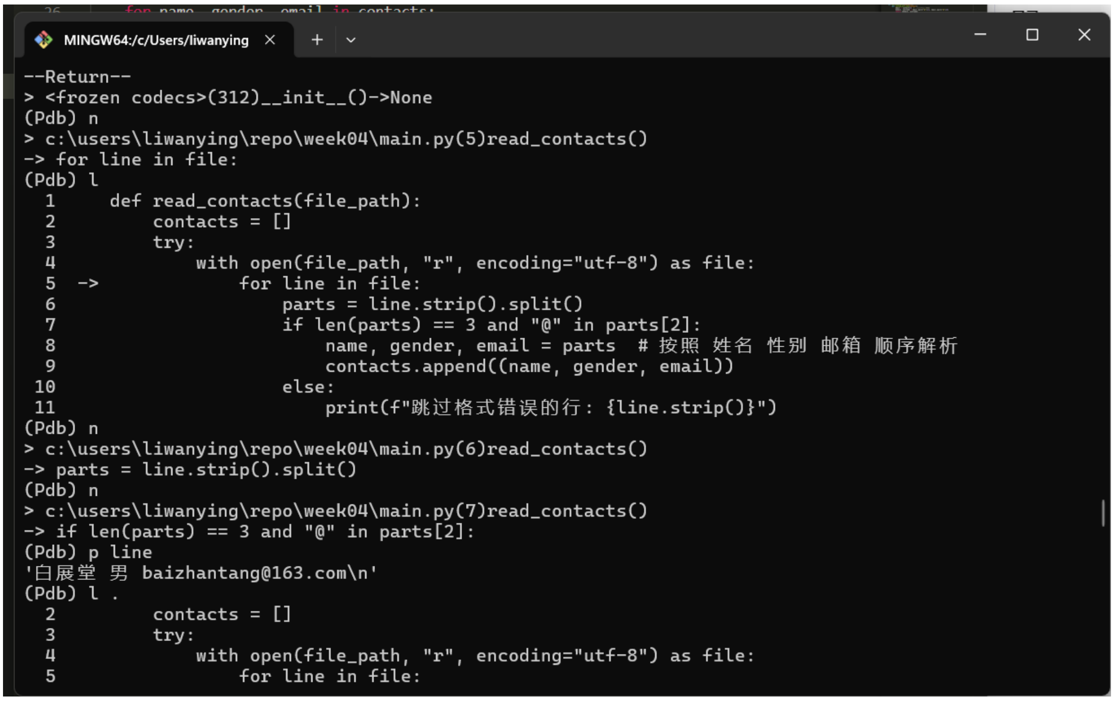


```
24    def generate_emails(contacts):
```

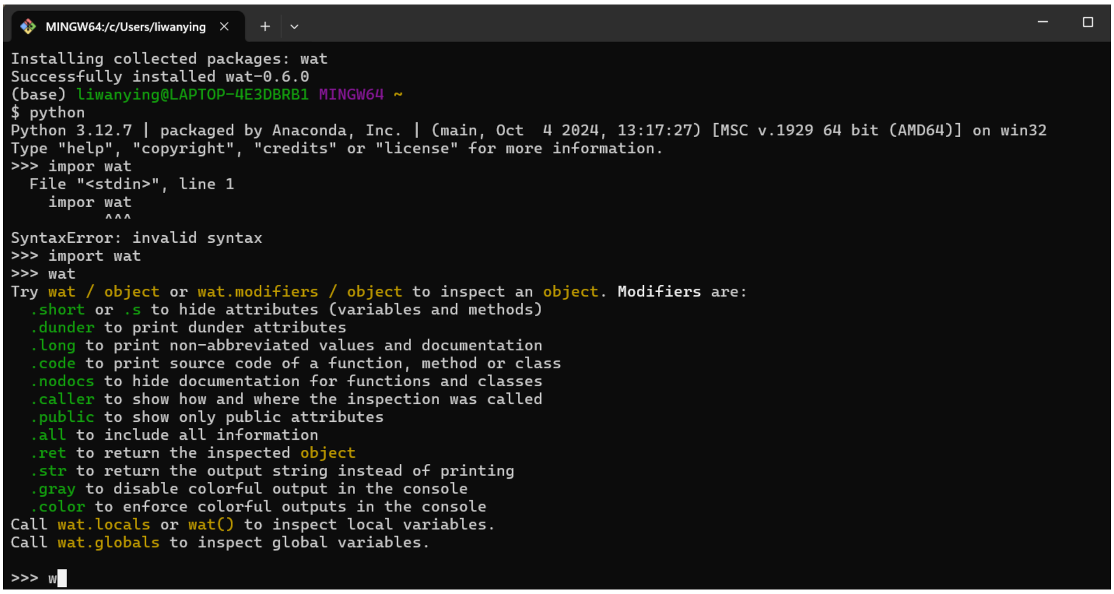
```
 44         generated_emails = generate_emails(sorted_contacts)
 45         write_emails(output_file, generated_emails)
 46         print(f"邮件已成功生成到 {output_file}。")
[EOF]
(Pdb) n
> c:\users\liwanying\repo\week04\main.py(43)<module>()
-> sorted_contacts = sort_contacts(contacts)
(Pdb) l .
 38
 39     if __name__ == "__main__":
 40         contacts_file = "contacts.txt"
 41         output_file = "emails.txt"
 42         contacts = read_contacts(contacts_file)
 43  ->     sorted_contacts = sort_contacts(contacts)
 44         generated_emails = generate_emails(sorted_contacts)
 45         write_emails(output_file, generated_emails)
 46         print(f"邮件已成功生成到 {output_file}。")
[EOF]
(Pdb) p contacts
[('白展堂', '男', 'baizhantang@163.com'), ('佟湘玉', '女', 'tongxiangyu@163.com'), ('吕轻侯', '男'
, 'lvqinghou@126.com'), ('郭芙蓉', '女', 'guofurong@126.com'), ('李秀莲', '男', 'lixiulian@163.com
'), ('祝无双', '女', 'zhuwushuang@163.com')]
(Pdb) pp contacts
[('白展堂', '男', 'baizhantang@163.com'),
 ('佟湘玉', '女', 'tongxiangyu@163.com'),
 ('吕轻侯', '男', 'lvqinghou@126.com'),
 ('郭芙蓉', '女', 'guofurong@126.com'),
 ('李秀莲', '男', 'lixiulian@163.com'),
 ('祝无双', '女', 'zhuwushuang@163.com')]
(Pdb)
```



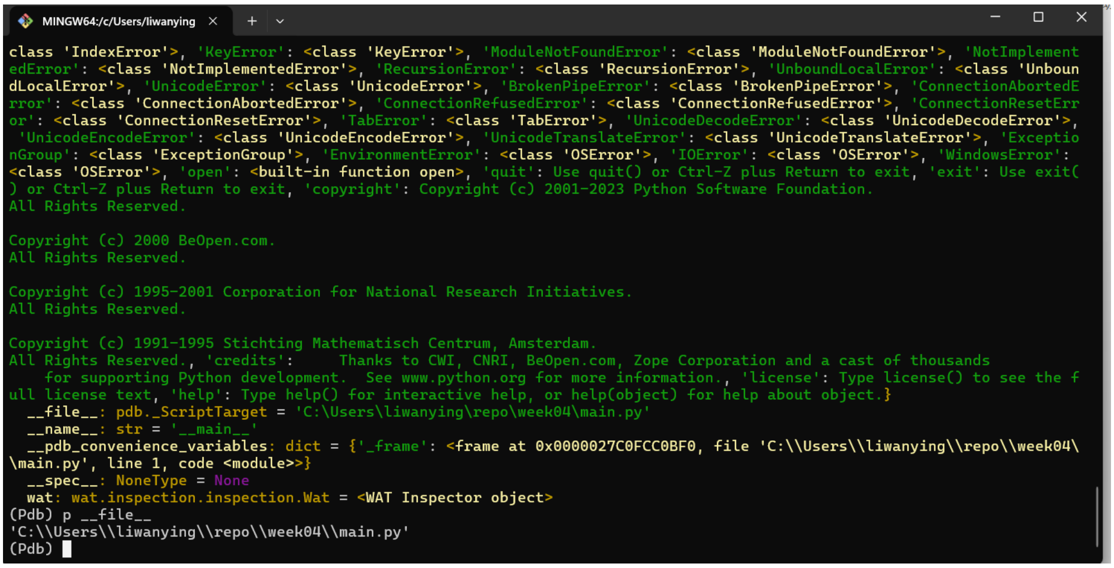
```
  5                 for line in file:
  6                     parts = line.strip().split()
  7                     if len(parts) == 3 and "@" in parts[2]:
  8                         name, gender, email = parts  # 按照 姓名 性别 邮箱 顺序解析
  9                         contacts.append((name, gender, email))
 10                     else:
 11                         print(f"跳过格式错误的行：{line.strip()}")
(Pdb) n
> c:\users\liwanying\repo\week04\main.py(3)read_contacts()
-> try:
(Pdb) n
> c:\users\liwanying\repo\week04\main.py(4)read_contacts()
-> with open(file_path, "r", encoding="utf-8") as file:
(Pdb) l
  1     def read_contacts(file_path):
  2         contacts = []
  3         try:
  4  ->         with open(file_path, "r", encoding="utf-8") as file:
  5                 for line in file:
  6                     parts = line.strip().split()
  7                     if len(parts) == 3 and "@" in parts[2]:
  8                         name, gender, email = parts  # 按照 姓名 性别 邮箱 顺序解析
  9                         contacts.append((name, gender, email))
 10                     else:
 11                         print(f"跳过格式错误的行：{line.strip()}")
(Pdb) p open
<built-in function open>
(Pdb) p file_path
'contacts.txt'
(Pdb)
```



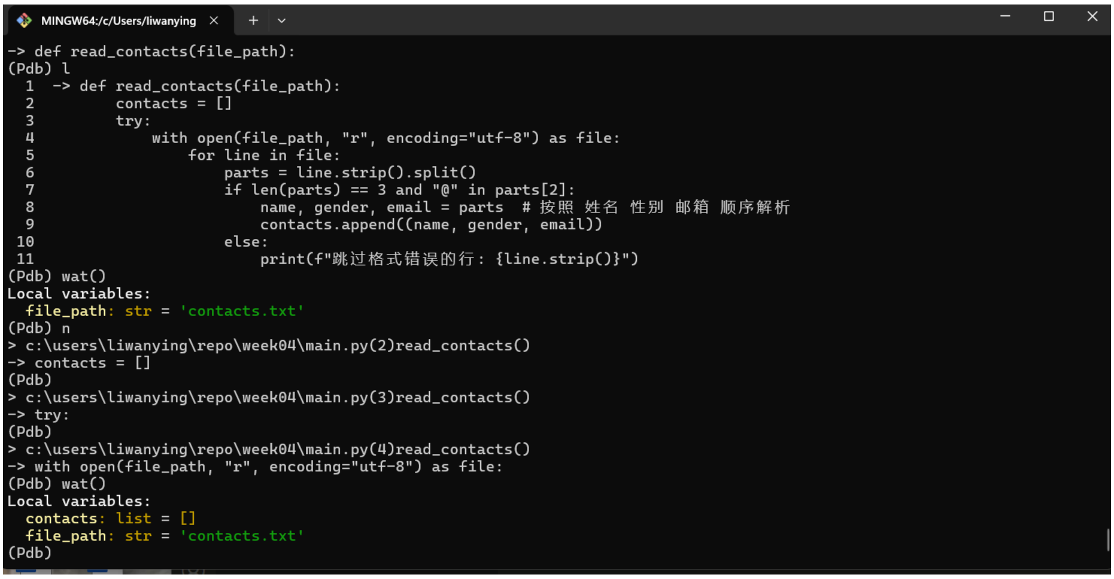
```
--Return--
> <frozen codecs>(312)__init__()->None
(Pdb) n
> c:\users\liwanying\repo\week04\main.py(5)read_contacts()
-> for line in file:
(Pdb) l
  1     def read_contacts(file_path):
  2         contacts = []
  3         try:
  4             with open(file_path, "r", encoding="utf-8") as file:
  5  ->             for line in file:
  6                     parts = line.strip().split()
  7                     if len(parts) == 3 and "@" in parts[2]:
  8                         name, gender, email = parts  # 按照 姓名 性别 邮箱 顺序解析
  9                         contacts.append((name, gender, email))
 10                     else:
 11                         print(f"跳过格式错误的行: {line.strip()}")
(Pdb) n
> c:\users\liwanying\repo\week04\main.py(6)read_contacts()
-> parts = line.strip().split()
(Pdb) n
> c:\users\liwanying\repo\week04\main.py(7)read_contacts()
-> if len(parts) == 3 and "@" in parts[2]:
(Pdb) p line
'白展堂 男 baizhantang@163.com\n'
(Pdb) l .
  2         contacts = []
  3         try:
  4             with open(file_path, "r", encoding="utf-8") as file:
  5                 for line in file:
```



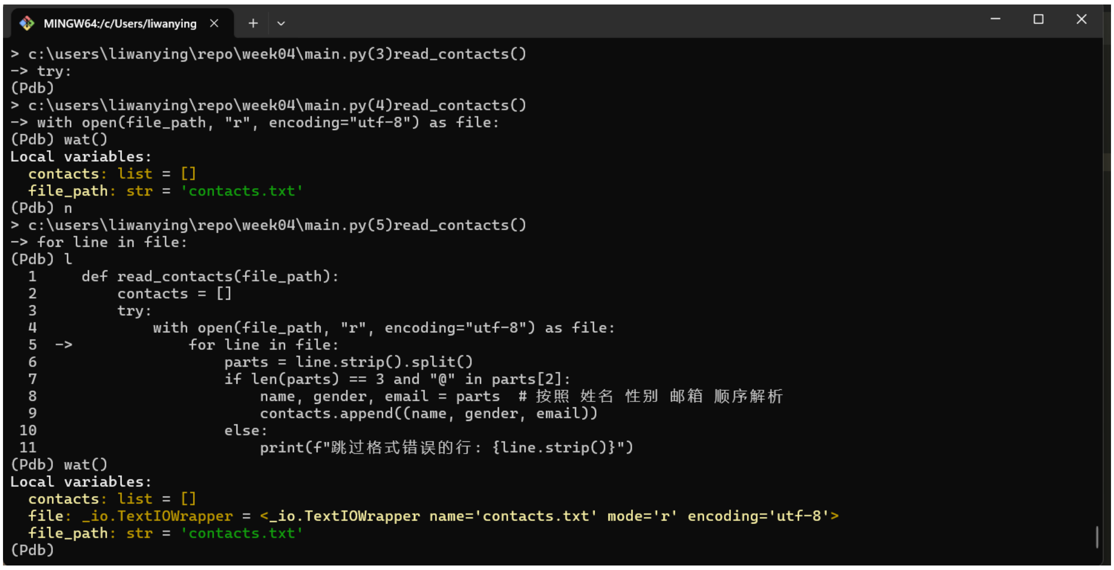
```
Installing collected packages: wat
Successfully installed wat-0.6.0
(base) liwanying@LAPTOP-4E3DBRB1 MINGW64 ~
$ python
Python 3.12.7 | packaged by Anaconda, Inc. | (main, Oct  4 2024, 13:17:27) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> impor wat
  File "<stdin>", line 1
    impor wat
    ^^^
SyntaxError: invalid syntax
>>> import wat
>>> wat
Try wat / object or wat.modifiers / object to inspect an object. Modifiers are:
  .short or .s to hide attributes (variables and methods)
  .dunder to print dunder attributes
  .long to print non-abbreviated values and documentation
  .code to print source code of a function, method or class
  .nodocs to hide documentation for functions and classes
  .caller to show how and where the inspection was called
  .public to show only public attributes
  .all to include all information
  .ret to return the inspected object
  .str to return the output string instead of printing
  .gray to disable colorful output in the console
  .color to enforce colorful outputs in the console
Call wat.locals or wat() to inspect local variables.
Call wat.globals to inspect global variables.

>>> w
```



```
class 'IndexError'>, 'KeyError': <class 'KeyError'>, 'ModuleNotFoundError': <class 'ModuleNotFoundError'>, 'NotImplement
edError': <class 'NotImplementedError'>, 'RecursionError': <class 'RecursionError'>, 'UnboundLocalError': <class 'Unboun
dLocalError'>, 'UnicodeError': <class 'UnicodeError'>, 'BrokenPipeError': <class 'BrokenPipeError'>, 'ConnectionAbortedE
rror': <class 'ConnectionAbortedError'>, 'ConnectionRefusedError': <class 'ConnectionRefusedError'>, 'ConnectionResetErr
or': <class 'ConnectionResetError'>, 'TabError': <class 'TabError'>, 'UnicodeDecodeError': <class 'UnicodeDecodeError'>,
 'UnicodeEncodeError': <class 'UnicodeEncodeError'>, 'UnicodeTranslateError': <class 'UnicodeTranslateError'>, 'Exceptio
nGroup': <class 'ExceptionGroup'>, 'EnvironmentError': <class 'OSError'>, 'IOError': <class 'OSError'>, 'WindowsError':
<class 'OSError'>, 'open': <built-in function open>, 'quit': Use quit() or Ctrl-Z plus Return to exit, 'exit': Use exit(
) or Ctrl-Z plus Return to exit, 'copyright': Copyright (c) 2001-2023 Python Software Foundation.
All Rights Reserved.

Copyright (c) 2000 BeOpen.com.
All Rights Reserved.

Copyright (c) 1995-2001 Corporation for National Research Initiatives.
All Rights Reserved.

Copyright (c) 1991-1995 Stichting Mathematisch Centrum, Amsterdam.
All Rights Reserved., 'credits':     Thanks to CWI, CNRI, BeOpen.com, Zope Corporation and a cast of thousands
    for supporting Python development.  See www.python.org for more information., 'license': Type license() to see the f
ull license text, 'help': Type help() for interactive help, or help(object) for help about object.}
  __file__: pdb._ScriptTarget = 'C:\Users\liwanying\repo\week04\main.py'
  __name__: str = '__main__'
  __pdb_convenience_variables: dict = {'_frame': <frame at 0x0000027C0FCC0BF0, file 'C:\\Users\\liwanying\\repo\\week04\
\main.py', line 1, code <module>>}
  __spec__: NoneType = None
  wat: wat.inspection.inspection.Wat = <WAT Inspector object>
(Pdb) p __file__
'C:\\Users\\liwanying\\repo\\week04\\main.py'
(Pdb) 
```



```
-> def read_contacts(file_path):
(Pdb) l
  1  -> def read_contacts(file_path):
  2         contacts = []
  3         try:
  4             with open(file_path, "r", encoding="utf-8") as file:
  5                 for line in file:
  6                     parts = line.strip().split()
  7                     if len(parts) == 3 and "@" in parts[2]:
  8                         name, gender, email = parts  # 按照 姓名 性别 邮箱 顺序解析
  9                         contacts.append((name, gender, email))
 10                     else:
 11                         print(f"跳过格式错误的行：{line.strip()}")
(Pdb) wat()
Local variables:
  file_path: str = 'contacts.txt'
(Pdb) n
> c:\users\liwanying\repo\week04\main.py(2)read_contacts()
-> contacts = []
(Pdb)
> c:\users\liwanying\repo\week04\main.py(3)read_contacts()
-> try:
(Pdb)
> c:\users\liwanying\repo\week04\main.py(4)read_contacts()
-> with open(file_path, "r", encoding="utf-8") as file:
(Pdb) wat()
Local variables:
  contacts: list = []
  file_path: str = 'contacts.txt'
(Pdb)
```



```
> c:\users\liwanying\repo\week04\main.py(3)read_contacts()
-> try:
(Pdb)
> c:\users\liwanying\repo\week04\main.py(4)read_contacts()
-> with open(file_path, "r", encoding="utf-8") as file:
(Pdb) wat()
Local variables:
  contacts: list = []
  file_path: str = 'contacts.txt'
(Pdb) n
> c:\users\liwanying\repo\week04\main.py(5)read_contacts()
-> for line in file:
(Pdb) l
  1     def read_contacts(file_path):
  2         contacts = []
  3         try:
  4             with open(file_path, "r", encoding="utf-8") as file:
  5  ->             for line in file:
  6                     parts = line.strip().split()
  7                     if len(parts) == 3 and "@" in parts[2]:
  8                         name, gender, email = parts  # 按照 姓名 性别 邮箱 顺序解析
  9                         contacts.append((name, gender, email))
 10                     else:
 11                         print(f"跳过格式错误的行：{line.strip()}")
(Pdb) wat()
Local variables:
  contacts: list = []
  file: _io.TextIOWrapper = <_io.TextIOWrapper name='contacts.txt' mode='r' encoding='utf-8'>
  file_path: str = 'contacts.txt'
(Pdb)
```