

## clone 至本地

```
(base) 31776@000000 MINGW64 ~/repo
$ git clone https://gitcode.com/KJM04/week04.git
Cloning into 'week04'...
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (5/5), done.
remote: Total 5 (delta 0), reused 5 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (5/5), 8.43 KiB | 479.00 KiB/s, done.

(base) 31776@000000 MINGW64 ~/repo
$ cd week04

(base) 31776@000000 MINGW64 ~/repo/week04 (main)
$ git remote show origin
* remote origin
  Fetch URL: https://gitcode.com/KJM04/week04.git
  Push URL: https://gitcode.com/KJM04/week04.git
  HEAD branch: main
  Remote branch:
    main tracked
  Local branch configured for 'git pull':
    main merges with remote main
  Local ref configured for 'git push':
    main pushes to main (up to date)
```

## 复制

```
(base) 31776@000000 MINGW64 ~/repo/week04 (main)
$ cp ../myproject/environment.yml ./

(base) 31776@000000 MINGW64 ~/repo/week04 (main)
$ ls -l
total 25
-rw-r--r-- 1 31776 197609 87 3月 29 06:49 environment.yml
-rw-r--r-- 1 31776 197609 18805 3月 29 06:12 LICENSE
-rw-r--r-- 1 31776 197609 2239 3月 29 06:12 README.md
```

## 配置环境

```
(base) 31776@000000 MINGW64 ~/repo/week04 (main)
$ ls -l
total 25
-rw-r--r-- 1 31776 197609 87 3月 29 06:49 environment.yml
done
#
# To activate this environment, use
#
#     $ conda activate week04
#
# To deactivate an active environment, use
#
#     $ conda deactivate
```

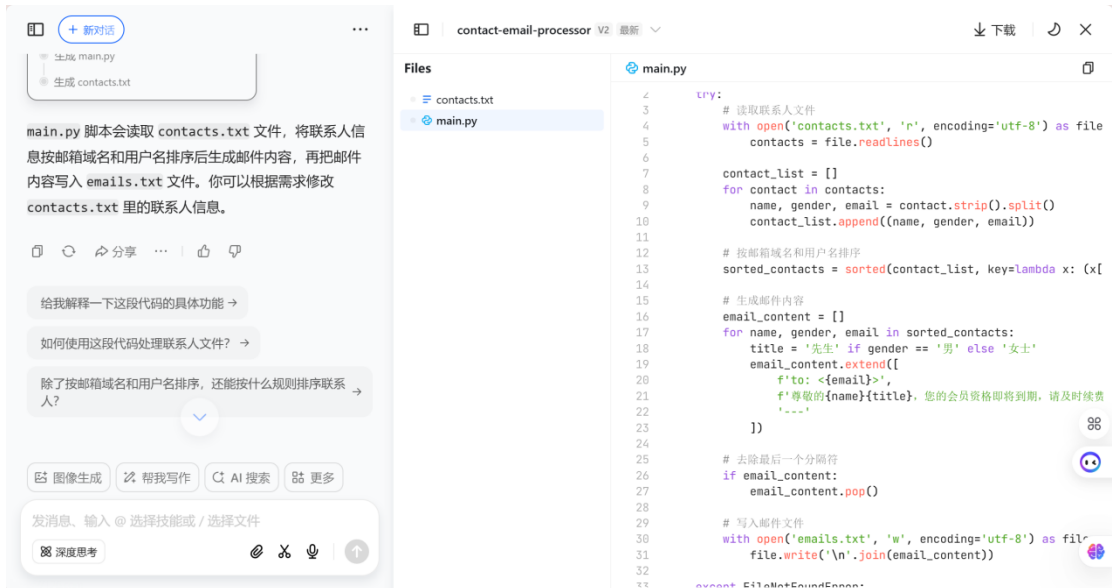
## vs code 中导入数据



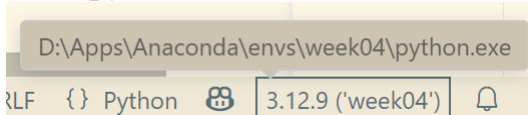
## 读取

```
(base) 31776@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
```

## 询问大模型



## 配置 python 解释器



## 生成文件

```

    (week04)
31776@□□□□\□□ MINGW64 ~/repo/week04 (main)
$ python main.py
(week04)
31776@□□□□\□□ MINGW64 ~/repo/week04 (main)
$ ls -l
total 31
-rw-r--r-- 1 31776 197609 204 3月 29 07:14 contacts.txt
-rw-r--r-- 1 31776 197609 659 3月 30 03:03 emails.txt
-rw-r--r-- 1 31776 197609 72 3月 29 06:52 environment.yml
-rw-r--r-- 1 31776 197609 18805 3月 29 06:12 LICENSE
-rw-r--r-- 1 31776 197609 1368 3月 29 08:28 main.py
-rw-r--r-- 1 31776 197609 2239 3月 29 06:12 README.md

```

≡ emails.txt

```

1  to: <guofurong@126.com>
2  尊敬的郭芙蓉女士，您的会员资格即将到期，请及时续费。
3  ---
4  to: <lvqinghou@126.com>
5  尊敬的吕轻侯先生，您的会员资格即将到期，请及时续费。
6  ---
7  to: <baizhantang@163.com>
8  尊敬的白展堂先生，您的会员资格即将到期，请及时续费。
9  ---
10 to: <lixiumian@163.com>
11 尊敬的李秀莲先生，您的会员资格即将到期，请及时续费。
12 ---
13 to: <tongxiangyu@163.com>
14 尊敬的佟湘玉女士，您的会员资格即将到期，请及时续费。
15 ---
16 to: <zhuwushuang@163.com>
17 尊敬的祝无双女士，您的会员资格即将到期，请及时续费。

```

```

$ 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: <lixiumian@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)

```

## 运行调试器

```
(week04)
31776@MINGW64 ~/repo/week04 (main)
$ python -m pdb main.py
> c:\users\31776\repo\week04\main.py(1)<module>()
-> def process_contacts():
(Pdb)
```

命令: l(list), n(next), p(print), s(step in), pp(), c()

亲手验证概念, proof of concepts

```
(Pdb) l
1  -> def process_contacts():
2      try:
3          # 读取联系人文件
4          with open('contacts.txt', 'r', encoding='utf-8') as file:
5              contacts = file.readlines()
6
7          contact_list = []
8          for contact in contacts:
9              name, gender, email = contact.strip().split()
10             contact_list.append((name, gender, email))
11
(Pdb) n
> c:\users\31776\repo\week04\main.py(39)<module>()
-> if __name__ == "__main__":
(Pdb) p process_contacts
<function process_contacts at 0x0000018A45B3F920>
(Pdb) s
> c:\users\31776\repo\week04\main.py(40)<module>()
-> process_contacts()
(Pdb) p name
'吕轻侯'
(Pdb) p gender
'男'
(Pdb) p email
'lvqinghou@126.com'
(Pdb) p contact.strip()
'吕轻侯 男 lvqinghou@126.com'
(Pdb) p contact.strip().split()
['吕轻侯', '男', 'lvqinghou@126.com']
(Pdb) --KeyboardInterrupt--
(Pdb) p contacts
['白展堂 男 baizhantang@163.com\n', '佟湘玉 女 tongxiangyu@163.com\n', '吕轻侯 男 lvqinghou@126.com\n', '郭芙蓉 女 guofu
rong@126.com\n', '李秀莲 男 lixiulian@163.com\n', '祝无双 女 zhuwushuang@163.com\n']
(Pdb) pp contacts
['白展堂 男 baizhantang@163.com\n',
'佟湘玉 女 tongxiangyu@163.com\n',
'吕轻侯 男 lvqinghou@126.com\n',
'郭芙蓉 女 guofurong@126.com\n',
'李秀莲 男 lixiulian@163.com\n',
'祝无双 女 zhuwushuang@163.com\n']
(Pdb) for name, gender, email in sorted_contacts:
(Pdb) pp sorted_contacts
[('郭芙蓉', '女', 'guofurong@126.com'),
('吕轻侯', '男', 'lvqinghou@126.com'),
('白展堂', '男', 'baizhantang@163.com'),
('李秀莲', '男', 'lixiulian@163.com'),
('佟湘玉', '女', 'tongxiangyu@163.com'),
('祝无双', '女', 'zhuwushuang@163.com')]
(Pdb) c
The program finished and will be restarted
> c:\users\31776\repo\week04\main.py(1)<module>()
-> def process_contacts():
```

## 更新环境

```
(week04)
31776@000000 MINGW64 ~/repo/week04 (main)
$ conda env update
D:\Apps\Anaconda\Lib\argparse.py:2006: FutureWarning: 'remote_definition' is deprecated and will be removed in 25.9. Use
'conda env create --file=URL' instead.
  action(self, namespace, argument_values, option_string)
Channels:
- conda-forge
- defaults
- https://repo.anaconda.com/pkg/main
- https://repo.anaconda.com/pkg/r
- https://repo.anaconda.com/pkg/msys2
Platform: win-64
Collecting package metadata (repodata.json): done
Solving environment: done
#
# To activate this environment, use
#
#   $ conda activate week04
#
# To deactivate an active environment, use
#
#   $ conda deactivate
```

## 调试 wat

```
31776@000000 MINGW64 ~/repo/week04 (main)
$ python -m pdb main.py
> c:\users\31776\repo\week04\main.py(1)<module>()
-> def process_contacts():
(Pdb) l
  1  -> def process_contacts():
  2      try:
  3          # 读取联系人文件
  4          with open('contacts.txt', 'r', encoding='utf-8') as file:
  5              contacts = file.readlines()
  6
  7          contact_list = []
  8          for contact in contacts:
  9              name, gender, email = contact.strip().split()
 10              contact_list.append((name, gender, email))
 11
(Pdb) wat
*** NameError: name 'wat' is not defined
(Pdb) import wat
(Pdb) 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
.code to print source code of a function, method or class
.long to print non-abbreviated values and documentation
.nodocs to hide documentation for functions and classes
.caller to show how and where the inspection was called
.all to include all information
.ret to return the inspected object
.str to return the output string instead of printing
.gray to disable color+ul 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.

(Pdb) wat()
Local variables:
__builtins__: dict = {...
__file__: pdb._ScriptTarget = 'C:\Users\31776\repo\week04\main.py'
__name__: str = '__main__'
__pdb_convenience_variables__: dict = {...
__spec__: NoneType = None
wat: wat.inspection.inspection.Wat = <WAT Inspector object>
(Pdb) p __name__
'__main__'
```

## 了解对象

```
(Pdb) p contacts
['白展堂 男 baizhantang@163.com\n', '佟湘玉 女 tongxiangyu@163.com\n', '吕轻侯 男 lvqinghou@126.com\n', '郭芙蓉 女 guofu
rong@126.com\n', '李秀莲 男 lixiulian@163.com\n', '祝无双 女 zhuwushuang@163.com\n']
(Pdb) pp contacts
['白展堂 男 baizhantang@163.com\n',
 '佟湘玉 女 tongxiangyu@163.com\n',
 '吕轻侯 男 lvqinghou@126.com\n',
 '郭芙蓉 女 guofurong@126.com\n',
 '李秀莲 男 lixiulian@163.com\n',
 '祝无双 女 zhuwushuang@163.com\n']
(Pdb) wat / contacts

value: [
  '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
  '
]
```