

自学能力

建立 python 项目

已安装 conda

```
MINGW64:~/c/Users/31776 x + v
31776@0000[00 MINGW64 ~
$ which conda
/d/Apps/Anaconda/Scripts/conda
31776@0000[00 MINGW64 ~
$ conda
usage: conda-script.py [-h] [-v] [--no-plugins] [-V] COMMAND ...

conda is a tool for managing and deploying applications, environments and packages.

options:
  -h, --help            Show this help message and exit.
  -v, --verbose          Can be used multiple times. Once for detailed output, twice for INFO logging, thrice for DEBUG
                        logging, four times for TRACE logging.
  --no-plugins           Disable all plugins that are not built into conda.
  -V, --version          Show the conda version number and exit.

commands:
  The following built-in and plugins subcommands are available.

COMMAND
  activate              Activate a conda environment.
  build                 Build conda packages from a conda recipe.
  clean                 Remove unused packages and caches.
  commands              List all available conda subcommands (including those from plugins). Generally only used by
                        tab-completion.
  compare               Compare packages between conda environments.
  config                Modify configuration values in .condarc.
  content-trust          Signing and verification tools for Conda
```

初始化

```
31776@0000[00 MINGW64 ~
$ conda init bash
no change      D:\Apps\Anaconda\Scripts\conda.exe
no change      D:\Apps\Anaconda\Scripts\conda-env.exe
no change      D:\Apps\Anaconda\Scripts\conda-script.py
no change      D:\Apps\Anaconda\Scripts\conda-env-script.py
no change      D:\Apps\Anaconda\condabin\conda.bat
no change      D:\Apps\Anaconda\Library\bin\conda.bat
no change      D:\Apps\Anaconda\condabin\_conda_activate.bat
no change      D:\Apps\Anaconda\condabin\rename_tmp.bat
no change      D:\Apps\Anaconda\condabin\conda_auto_activate.bat
no change      D:\Apps\Anaconda\condabin\conda_hook.bat
no change      D:\Apps\Anaconda\Scripts\activate.bat
no change      D:\Apps\Anaconda\condabin\activate.bat
no change      D:\Apps\Anaconda\condabin\deactivate.bat
modified       D:\Apps\Anaconda\Scripts\activate
modified       D:\Apps\Anaconda\Scripts\deactivate
modified       D:\Apps\Anaconda\etc\profile.d\conda.sh
modified       D:\Apps\Anaconda\etc\fish\conf.d\conda.fish
no change      D:\Apps\Anaconda\shell\condabin\Conda.psm1
modified       D:\Apps\Anaconda\shell\condabin\conda-hook.ps1
no change      D:\Apps\Anaconda\Lib\site-packages\xontrib\conda.xsh
modified       D:\Apps\Anaconda\etc\profile.d\conda.csh
modified       C:\Users\31776\.bash_profile

==> For changes to take effect, close and re-open your current shell. <==
```

base 调整成功

```
(base) 31776@000000 MINGW64 ~
$ ls -l
total 26533
lrwxrwxrwx 1 31776 197609 59 6月 29 2024 「开始」菜单 -> '/c/Users/31776/AppData/Roaming/Microsoft/Windows/Sta
rt Menu'/
drwxr-xr-x 1 31776 197609 0 6月 29 2024 AppData/
lrwxrwxrwx 1 31776 197609 30 6月 29 2024 'Application Data' -> /c/Users/31776/AppData/Roaming/
drwxr-xr-x 1 31776 197609 0 6月 29 2024 Contacts/
lrwxrwxrwx 1 31776 197609 58 6月 29 2024 Cookies -> /c/Users/31776/AppData/Local/Microsoft/windows/INetCookies/
drwxr-xr-x 1 31776 197609 0 3月 23 20:02 Desktop/
drwxr-xr-x 1 31776 197609 0 3月 11 10:34 Documents/
drwxr-xr-x 1 31776 197609 0 3月 18 10:08 Downloads/
drwxr-xr-x 1 31776 197609 0 6月 29 2024 Favorites/
drwxr-xr-x 1 31776 197609 0 6月 29 2024 Links/
lrwxrwxrwx 1 31776 197609 28 6月 29 2024 'Local Settings' -> /c/Users/31776/AppData/Local/
drwxr-xr-x 1 31776 197609 0 6月 29 2024 Music/
lrwxrwxrwx 1 31776 197609 24 6月 29 2024 'My Documents' -> /c/Users/31776/Documents/
lrwxrwxrwx 1 31776 197609 66 6月 29 2024 NetHood -> '/c/Users/31776/AppData/Roaming/Microsoft/Windows/Network S
hortcuts'/
-rw-r--r-- 1 31776 197609 16777216 3月 7 00:56 NTUSER.DAT
-rw-r--r-- 1 31776 197609 4329472 6月 29 2024 ntuser.dat.LOG1
-rw-r--r-- 1 31776 197609 1703936 6月 29 2024 ntuser.dat.LOG2
-rw-r--r-- 1 31776 197609 1048576 3月 24 19:22 NTUSER.DAT{9e509044-3445-11ef-ace0-ce291d9703ff}.TxR.0.regtrans-ms
-rw-r--r-- 1 31776 197609 1048576 3月 11 10:51 NTUSER.DAT{9e509044-3445-11ef-ace0-ce291d9703ff}.TxR.1.regtrans-ms
-rw-r--r-- 1 31776 197609 1048576 3月 11 10:51 NTUSER.DAT{9e509044-3445-11ef-ace0-ce291d9703ff}.TxR.2.regtrans-ms
-rw-r--r-- 1 31776 197609 65536 3月 24 19:22 NTUSER.DAT{9e509044-3445-11ef-ace0-ce291d9703ff}.TxR.blf
-rw-r--r-- 1 31776 197609 65536 3月 6 23:20 NTUSER.DAT{9e509045-3445-11ef-ace0-ce291d9703ff}.TM.blf
-rw-r--r-- 1 31776 197609 524288 3月 11 15:06 NTUSER.DAT{9e509045-3445-11ef-ace0-ce291d9703ff}.TMContainer0000000000
0000000001.regtrans-ms
-rw-r--r-- 1 31776 197609 524288 12月 7 02:32 NTUSER.DAT{9e509045-3445-11ef-ace0-ce291d9703ff}.TMContainer0000000000
```

ps1 调整

```
$ .bash_profile X
$ .bash_profile
1
2 # >>> conda initialize >>>
3 # !! Contents within this block are managed by 'conda init' !!
4 if [ -f '/d/Apps/Anaconda/Scripts/conda.exe' ]; then
5 |     eval "$('/d/Apps/Anaconda/Scripts/conda.exe' 'shell.bash' 'hook')"
6 fi
7 # <<< conda initialize <<<
8 PS1="\n$PS1"
9
```

换行成功

```
(base) 31776@000000 MINGW64
$ █
```

conda info 查看信息

```
(base) 31776@000000 MINGW64 ~  
$ conda info  
  
active environment : base  
active env location : D:\Apps\Anaconda  
shell level : 1  
user config file : C:\Users\31776\.condarc  
populated config files : D:\Apps\Anaconda\.condarc  
conda version : 24.9.2  
conda-build version : 24.9.0  
python version : 3.12.7.final.0  
solver : libmamba (default)  
virtual packages : __archspec=1=x86_64_v3  
                  __conda=24.9.2=0  
                  __win=0=0  
base environment : D:\Apps\Anaconda (writable)  
conda av data dir : D:\Apps\Anaconda\etc\conda  
conda av metadata url : None  
channel URLs : https://repo.anaconda.com/pkgs/main/win-64  
              https://repo.anaconda.com/pkgs/main/noarch  
              https://repo.anaconda.com/pkgs/r/win-64
```

安装 python3.12 和 requests 成功

```
done  
#  
# To activate this environment, use  
#  
#   $ conda activate pej1  
#  
# To deactivate an active environment, use  
#  
#   $ conda deactivate
```

python3.9, pandas, statsmodels 安装完毕

```
done  
#  
# To activate this environment, use  
#  
#   $ conda activate prj2  
#  
# To deactivate an active environment, use  
#  
#   $ conda deactivate
```

查看并激活环境

```
(base) 31776@0000\000 MINGW64 ~
$ conda env list
# conda environments:
#
base * D:\Apps\Anaconda
prj1 D:\Apps\Anaconda\envs\prj1
prj2 D:\Apps\Anaconda\envs\prj2

(base) 31776@0000\000 MINGW64 ~
$ conda activate prj1
(prj1)
31776@0000\000 MINGW64 ~
$
```

检查 python 情况

```
31776@0000\000 MINGW64 ~
$ python
Python 3.12.9 | packaged by Anaconda, Inc. | (main, Feb 6 2025, 18:49:16) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> import requests
>>> requests
<module 'requests' from 'D:\\Apps\\Anaconda\\envs\\prj1\\Lib\\site-packages\\requests\\__init__.py'>
>>>
```

查询信息

```
31776@0000\000 MINGW64 ~
$ python
Python 3.12.9 | packaged by Anaconda, Inc. | (main, Feb 6 2025, 18:49:16) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> import requests
>>> requests
<module 'requests' from 'D:\\Apps\\Anaconda\\envs\\prj1\\Lib\\site-packages\\requests\\__init__.py'>
>>> requests.__file__
File "<stdin>", line 1
    requests.__file__
    ^
SyntaxError: invalid character '-' (U+2014)
>>> requests.__file__
'D:\\Apps\\Anaconda\\envs\\prj1\\Lib\\site-packages\\requests\\__init__.py'
>>> import pandas
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
ModuleNotFoundError: No module named 'pandas'
>>> quit()
31776@0000\000 MINGW64 ~
$ conda activate prj2
(prj2)
31776@0000\000 MINGW64 ~
$ python --version
Python 3.9.21
(prj2)
31776@0000\000 MINGW64 ~
$ python
Python 3.9.21 (main, Dec 11 2024, 16:35:24) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> import pandas
>>> pandas.__file__
'D:\\Apps\\Anaconda\\envs\\prj2\\lib\\site-packages\\pandas\\__init__.py'
>>> pandas.__version__
'2.2.3'
>>> import statsmodels
File "<stdin>", line 1
    import statsmodels
    ^
SyntaxError: invalid syntax
>>> import statsmodels
>>> statsmodels.__version__
'0.14.4'
```

```

31776@00000000 MINGW64 ~
$ conda list
# packages in environment at D:\Apps\Anaconda\envs\prj2:
#
# Name                      Version                      Build      Channel
blas                        1.0                          mkl
bottleneck                  1.4.2                        py39hc99e966_0
ca-certificates             2025.2.25                    haa95532_0
icc_rt                      2022.1.0                     h6049295_2
intel-openmp                2023.1.0                     h59b6b97_46320

```

conda list 查询

```

(prj2)
31776@00000000 MINGW64 ~
$ conda list
# packages in environment at D:\Apps\Anaconda\envs\prj2:
#
# Name                      Version                      Build      Channel
blas                        1.0                          mkl
bottleneck                  1.4.2                        py39hc99e966_0
ca-certificates             2025.2.25                    haa95532_0
icc_rt                      2022.1.0                     h6049295_2
intel-openmp                2023.1.0                     h59b6b97_46320
31776@00000000 MINGW64 ~
$ conda activate prj1
(prj1)
31776@00000000 MINGW64 ~
$ conda list
# packages in environment at D:\Apps\Anaconda\envs\prj1:
#
# Name                      Version                      Build      Channel
brotli-python              1.0.9                        py312h5da7b33_9
bzip2                      1.0.8                        h2bbff1b_6
ca-certificates             2025.2.25                    haa95532_0

```

install ipython complete

```

ipython                    8.30.0                       py312haa95532_0
jedi                       0.19.2                       py312haa95532_0
libffi                     3.4.4                         hd77b12b_1
matplotlib-inline          0.1.6                         py312haa95532_0
openssl                    3.0.16                        h3f729d1_0
parso                      0.8.4                         py312haa95532_0
pip                        25.0                          py312haa95532_0
prompt-toolkit             3.0.43                       py312haa95532_0
prompt_toolkit             3.0.43                       hd3eb1b0_0
pure_eval                  0.2.2                         pyhd3eb1b0_0
pygments                   2.15.1                       py312haa95532_1
pysocks                    1.7.1                         py312haa95532_0
python                     3.12.9                        h14ffc60_0
requests                   2.32.3                       py312haa95532_1

```

清理

```

31776@00000000 MINGW64 ~
$ conda config --set show_channel_urls yes
(prj1)
31776@00000000 MINGW64 ~
$ conda clean -i
Will remove 1 index cache(s).
Proceed ([y]/n)? y

```

配置 conda 环境

```
(prj1)
31776@000000 MINGW64 ~
$ conda config --set channel_priority strict
(prj1)
```

```
$ .bash_profile  ! .condarc X
! .condarc
1  channels:
2    - conda-forge
3    - defaults
4  show_channel_urls: true
5  default_channels:
6    - https://mirrors.tuna.tsinghua.edu.cn/anaconda/pkgs/main
7    - https://mirrors.tuna.tsinghua.edu.cn/anaconda/pkgs/r
8    - https://mirrors.tuna.tsinghua.edu.cn/anaconda/pkgs/msys2
9  custom_channels:
10   conda-forge: https://mirrors.tuna.tsinghua.edu.cn/anaconda/cloud
11   pytorch: https://mirrors.tuna.tsinghua.edu.cn/anaconda/cloud
12  channel_priority: strict
13
```

install polars complete

The following packages will be SUPERSEDED by a higher-priority channel:

```
certifi          pkgs/main/win-64::certifi-2025.1.31-p~ --> conda-forge/noarch::certifi-2025.1.31-pyhd8ed1ab_0
python           pkgs/main::python-3.12.9-h14ffc60_0 --> conda-forge::python-3.12.3-h2628c8c_0_cpython
done
(prj1)
```

import polars in python

```
31776@000000 MINGW64 ~
$ python
Python 3.12.3 | packaged by conda-forge | (main, Apr 15 2024, 18:20:11) [MSC v.1938 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>> import polars
>>>
```

加速安装

```
(base) 31776@000000 MINGW64 ~
$ conda activate prj1
(prj1)
31776@000000 MINGW64 ~
$ python -m pip install --upgrade pip
Requirement already satisfied: pip in d:\apps\anaconda\envs\prj1\lib\site-packages (25.0)
Collecting pip
  Downloading pip-25.0.1-py3-none-any.whl.metadata (3.7 kB)
Downloading pip-25.0.1-py3-none-any.whl (1.8 MB)
    1.8/1.8 MB 10.7 kB/s eta 0:00:00
Installing collected packages: pip
  Attempting uninstall: pip
    Found existing installation: pip 25.0
    Uninstalling pip-25.0:
      Successfully uninstalled pip-25.0
Successfully installed pip-25.0.1
(prj1)
31776@000000 MINGW64 ~
$ pip config set global.index-url https://mirrors.tuna.tsinghua.edu.cn/pypi/web/simple
Writing to C:\Users\31776\AppData\Roaming\pip\pip.ini
(prj1)
```

tushare 应用成功

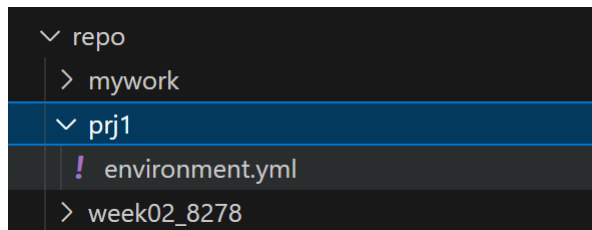
```
31776@000000 MINGW64 ~
$ python
Python 3.12.3 | packaged by conda-forge | (main, Apr 15 2024, 18:20:11) [MSC v.1938 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>> import tushare
>>> tushare.__version__
'1.4.21'
```

export environment

```
! environment.yml X
! environment.yml
1 name: prj1
2 channels:
3   - conda-forge
4   - defaults
5   - https://repo.anaconda.com/pkgs/main
6   - https://repo.anaconda.com/pkgs/r
7   - https://repo.anaconda.com/pkgs/msys2
8 dependencies:
9   - asttokens=2.0.5=pyhd3eb1b0_0
10  - brotli-python=1.0.9=py312h5da7b33_9
11  - bzip2=1.0.8=h2bbff1b_6
12  - ca-certificates=2025.2.25=haa95532_0
13  - certifi=2025.1.31=pyhd8ed1ab_0
14  - charset-normalizer=3.3.2=pyhd3eb1b0_0
15  - colorama=0.4.6=py312haa95532_0
16  - decorator=5.1.1=pyhd3eb1b0_0
17  - executing=0.8.3=pyhd3eb1b0_0
18  - expat=2.6.4=h8ddb27b_0
19  - idna=3.7=py312haa95532_0
20  - intel-openmp=2024.2.1=h57928b3_1083
21  - ipython=8.30.0=py312haa95532_0
22  - jedi=0.19.2=py312haa95532_0
23  - libblas=3.9.0=31_h641d27c_mkl
24  - libcbblas=3.9.0=31_h5e41251_mkl
25  - libexpat=2.6.4=he0c23c2_0
26  - libffi=3.4.4=hd77b12b_1
27  - libhwloc=2.11.2=default_hc8275d1_1000
28  - libiconv=1.18=h135ad9c_1
29  - liblapack=3.9.0=31_h1aa476e_mkl
30  - libsqlite=3.49.1=h67fdade_2
31  - libxml2=2.12.7=h283a6d9_1
32  - libzlib=1.2.13=h2466b09_6
33  - matplotlib-inline=0.1.6=py312haa95532_0
34  - mkl=2024.2.2=h66d3029_15
```

移动

```
(prj1)
31776@MINGW64 ~
$ conda deactivate
(base)
31776@MINGW64 ~
$ cd repo
(base)
31776@MINGW64 ~/repo
$ cd prj1
bash: cd: prj1: No such file or directory
(base)
31776@MINGW64 ~/repo
$ mkdir prj1
(base)
31776@MINGW64 ~/repo
$ cd prj1
(base)
31776@MINGW64 ~/repo/prj1
$ mv ~/environment.yml ./
(base)
```



环境重建

```
31776@MINGW64 ~/repo/prj1
$ conda env list
# conda environments:
#
base                  *  D:\Apps\Anaconda
prj1                  D:\Apps\Anaconda\envs\prj1
prj2                  D:\Apps\Anaconda\envs\prj2

polars                1.26.0                pypi_0                pypi
pyparser              2.22                  pyh29332c3_1          conda-forge
pysocks               1.7.1                  pyh09c184e_7          conda-forge
python                3.12.9                h3f84c4b_1_cpython    conda-forge
python-dateutil       2.9.0.post0           pypi_0                pypi
python_abi            3.12                  5_cp312               conda-forge
pytz                  2025.2                pypi_0                pypi
requests              2.32.3                pyhd8ed1ab_1          conda-forge
setuptools            75.8.2                pyhff2d567_0          conda-forge
simplejson             3.20.1                pypi_0                pypi
six                   1.17.0                pypi_0                pypi
soupsieve             2.6                   pypi_0                pypi
tbb                   2021.13.0             h62715c5_1            conda-forge
tk                    8.6.13                h5226925_1            conda-forge
tqdm                  4.67.1                pypi_0                pypi
tushare               1.4.21                pypi_0                pypi
```

应用

```
(base) 31776@MINGW64 ~/repo
$ cd myproject/

(base) 31776@MINGW64 ~/repo/myproject
$ ls -l
total 1
-rw-r--r-- 1 31776 197609 75  3月 29 01:53 environment.yml

(base) 31776@MINGW64 ~/repo/myproject
$ cat environment.yml
name: myproject
channels:
  - conda-forge
dependencies:
  - python=3.12
```

完成 ruff 设置


```

1  {
2      "workbench.startupEditor": "none",
3      "workbench.colorTheme": "Solarized Light",
4      "python": {
5          "editor.formatOnSave": true,
6          "editor.codeActionsOnSave": {
7              "source.fixAll": "explicit",
8              "source.organizeImports": "explicit"
9          },
10         "editor.defaultFormatter": "charliermarsh.ruff",
11     },
12     "notebook.formatOnSave.enabled": true,
13     "notebook.codeActionsOnSave": {
14         "notebook.source.fixAll": "explicit",
15         "notebook.source.organizeImports": "explicit"
16     },
17 }

```

运行成功

```

31776@00000000 MINGW64 ~/repo/myproject
$ python main.py
Hello, conda!

```

import pandas

```

main.py > main
1  import pandas as pd
2
3
4  def main():
5      print("Hello, conda!")
6      print(pd.__version__)
7      print(pd.__file__)
8
9
10 if __name__ == "__main__":
11     main()
12

```

```

31776@00000000 MINGW64 ~/repo/myproject
$ python main.py
Hello, conda!
2.2.3
D:\Apps\Anaconda\envs\myproject\Lib\site-packages\pandas\__init__.py
(myproject)

```

download rainbow

EPA_SmartLocationDatabase_V3_Jan_2021_Final.csv

	PBJE	CTID	GEOID10	GEOID20	STATEFP	COUNTYFP	TRACTCE	BLKGRPCE	CSA	CSA_Name	CBSA	CBSA_Name	CBSA_PO
1	1	4.8113E+11	4.8113E+11	48	113	7825	4	206	"Dallas-Fort Worth, TX-OK"	19100	"Dallas-Fort Worth		
2	2	4.8113E+11	4.8113E+11	48	113	7825	2	206	"Dallas-Fort Worth, TX-OK"	19100	"Dallas-Fort Worth		
3	3	4.8113E+11	4.8113E+11	48	113	7825	3	206	"Dallas-Fort Worth, TX-OK"	19100	"Dallas-Fort Worth		
4	4	4.8113E+11	4.8113E+11	48	113	7824	1	206	"Dallas-Fort Worth, TX-OK"	19100	"Dallas-Fort Worth		
5	5	4.8113E+11	4.8113E+11	48	113	7824	2	206	"Dallas-Fort Worth, TX-OK"	19100	"Dallas-Fort Worth		
6	6	4.8113E+11	4.8113E+11	48	113	7824	2	206	"Dallas-Fort Worth, TX-OK"	19100	"Dallas-Fort Worth		
7	7	4.8113E+11	4.8113E+11	48	113	7827	1	206	"Dallas-Fort Worth, TX-OK"	19100	"Dallas-Fort Worth		
8	8	4.8113E+11	4.8113E+11	48	113	9301	2	206	"Dallas-Fort Worth, TX-OK"	19100	"Dallas-Fort Worth		
9	9	4.8113E+11	4.8113E+11	48	113	1102	2	206	"Dallas-Fort Worth, TX-OK"	19100	"Dallas-Fort Worth		
10	10	4.8113E+11	4.8113E+11	48	113	11401	2	206	"Dallas-Fort Worth, TX-OK"	19100	"Dallas-Fort Worth		
11	11	4.8113E+11	4.8113E+11	48	113	11401	3	206	"Dallas-Fort Worth, TX-OK"	19100	"Dallas-Fort Worth		
12	12	4.8113E+11	4.8113E+11	48	113	11500	2	206	"Dallas-Fort Worth, TX-OK"	19100	"Dallas-Fort Worth		
13	13	4.8113E+11	4.8113E+11	48	113	11500	1	206	"Dallas-Fort Worth, TX-OK"	19100	"Dallas-Fort Worth		
14	14	4.8113E+11	4.8113E+11	48	113	12301	2	206	"Dallas-Fort Worth, TX-OK"	19100	"Dallas-Fort Worth		
15	15	4.8113E+11	4.8113E+11	48	113	12301	3	206	"Dallas-Fort Worth, TX-OK"	19100	"Dallas-Fort Worth		
16	16	4.8329E+11	4.8329E+11	48	329	304	3	372	"Midland-Odessa, TX"	33260	"Midland, TX"	169808	9534
17	17	4.8329E+11	4.8329E+11	48	329	305	2	372	"Midland-Odessa, TX"	33260	"Midland, TX"	169808	9534
18	18	4.8113E+11	4.8113E+11	48	113	12302	1	206	"Dallas-Fort Worth, TX-OK"	19100	"Dallas-Fort Worth		
19	19	4.8113E+11	4.8113E+11	48	113	12302	2	206	"Dallas-Fort Worth, TX-OK"	19100	"Dallas-Fort Worth		
20	20	4.8113E+11	4.8113E+11	48	113	13105	3	206	"Dallas-Fort Worth, TX-OK"	19100	"Dallas-Fort Worth		

数据计算成功

```
main.py > ...
1 import pandas as pd
2
3
4 def main():
5     """
6     Answers the question:
7
8     What percentage of U.S. residents live highly walkable neighborhoods?
9
10    "15.26" is the threshold on the index for a highly walkable area.
11    """
12    csv_file = "./EPA_SmartLocationDatabase_V3_Jan_2021_Final.csv"
13    highly_walkable = 15.26
14
15    df = pd.read_csv(csv_file)
16
17    total_population = df["TotPop"].sum()
18    highly_walkable_pop = df[df["NatWalkInd"] >= highly_walkable]["TotPop"].sum()
19
20    percentage = (highly_walkable_pop / total_population) * 100.0
21
22    print(f"{percentage:.2f}% of U.S. residents live in highlywalkable neighborhoods.")
23
24
25 if __name__ == "__main__":
26     main()
27
```

```
31776@MINGW64 ~/repo/myproject
$ python main.py
10.69% of U.S. residents live in highlywalkable neighborhoods.
(myproject)
```