

Conda init 配置

```
$ conda init
no change      D:\ANACONDA\Scripts\conda.exe
no change      D:\ANACONDA\Scripts\conda-env.exe
no change      D:\ANACONDA\Scripts\conda-script.py
no change      D:\ANACONDA\Scripts\conda-env-script.py
no change      D:\ANACONDA\condabin\conda.bat
no change      D:\ANACONDA\Library\bin\conda.bat
no change      D:\ANACONDA\condabin\_conda_activate.bat
no change      D:\ANACONDA\condabin\rename_tmp.bat
no change      D:\ANACONDA\condabin\conda_auto_activate.bat
no change      D:\ANACONDA\condabin\conda_hook.bat
no change      D:\ANACONDA\Scripts\activate.bat
no change      D:\ANACONDA\condabin\activate.bat
no change      D:\ANACONDA\condabin\deactivate.bat
no change      D:\ANACONDA\Scripts\activate
no change      D:\ANACONDA\Scripts\deactivate
no change      D:\ANACONDA\etc\profile.d\conda.sh
no change      D:\ANACONDA\etc\fish\conf.d\conda.fish
no change      D:\ANACONDA\shell\condabin\Conda.psm1
no change      D:\ANACONDA\shell\condabin\conda-hook.ps1
no change      D:\ANACONDA\Lib\site-packages\xontrib\conda.xsh
no change      D:\ANACONDA\etc\profile.d\conda.csh
```

将 base 与用户名置于同一行:

```
$ git-prompt.sh
1  if test -f /etc/profile.d/git-sdk.sh
2  then
3      TITLEPREFIX=SDK-${MSYSTEM#MINGW}
4  else
5      TITLEPREFIX=$MSYSTEM
6  fi
7
8  if test -f ~/.config/git/git-prompt.sh
9  then
10     . ~/.config/git/git-prompt.sh
11  else
12     PS1='\[\033]0;$TITLEPREFIX:$PWD\007\]' # set window title
13     PS1="$PS1"'\n' # new line
14     PS1="$PS1"'\[\033[32m\' # change to green
15     PS1="$PS1"'\u@h ' # user@host<space>
16     PS1="$PS1"'\[\033[35m\' # change to purple
17     PS1="$PS1"'$MSYSTEM ' # show MSYSTEM
18     PS1="$PS1"'\[\033[33m\' # change to brownish yellow
19     PS1="$PS1"'\w' # current working directory
20     if test -z "$WINELOADERNOEXEC"
21     then
22         GIT_EXEC_PATH="$(git --exec-path 2>/dev/null)"
23         COMPLETION_PATH="${GIT_EXEC_PATH%/libexec/git-core}"
24         COMPLETION_PATH="${COMPLETION_PATH%/lib/git-core}"
25         COMPLETION_PATH="${COMPLETION_PATH}/share/git/completion"
26         if test -f "$COMPLETION_PATH/git-prompt.sh"
27         then
28             . "$COMPLETION_PATH/git-completion.bash"
29             . "$COMPLETION_PATH/git-prompt.sh"
30             PS1="$PS1"'\[\033[36m\' # change color to cyan
31             PS1="$PS1"'\__git_ps1\' # bash function
32         fi
33     fi
```

```
(base) yang@LAPTOP-5AL1565V MINGW64 ~
$ conda
usage: conda-script.py [-h] [-v] command ...

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

Options:
positional arguments:
  command
  clean                Remove unused packages and caches.
  compare              Compare packages between conda environments.
  config               Modify configuration values in .condarc. This is modeled
                      after the git config command. Writes to the user .condarc
                      file (C:\Users\yang\condarc) by default.
  create               Create a new conda environment from a list of specified
                      packages.
  help                 Displays a list of available conda commands and their help
                      strings.
  info                 Display information about current conda install.
  init                 Initialize conda for shell interaction. [Experimental]
```

使用 conda info 查看配置信息

```
(base) yang@LAPTOP-5AL1565V MINGW64 ~
$ conda info

active environment : base
active env location : D:\ANACONDA
shell level : 1
user config file : C:\Users\yang\condarc
populated config files : C:\Users\yang\condarc
conda version : 4.12.0
conda-build version : 3.21.8
python version : 3.9.12.final.0
virtual packages : __cuda=10.2=0
                  __win=0=0
                  __archspec=1=x86_64
base environment : D:\ANACONDA (writable)
conda av data dir : D:\ANACONDA\etc\conda
conda av metadata url : None
channel URLs : https://mirrors.tuna.tsinghua.edu.cn/anaconda/cloud/conda-forge/win-64
               https://mirrors.tuna.tsinghua.edu.cn/anaconda/cloud/conda-forge/noarch
               https://mirrors.tuna.tsinghua.edu.cn/anaconda/pkg/main/win-64
               https://mirrors.tuna.tsinghua.edu.cn/anaconda/pkg/main/noarch
               https://mirrors.tuna.tsinghua.edu.cn/anaconda/pkg/r/win-64
               https://mirrors.tuna.tsinghua.edu.cn/anaconda/pkg/r/noarch
               https://mirrors.tuna.tsinghua.edu.cn/anaconda/pkg/msys2/win-64
               https://mirrors.tuna.tsinghua.edu.cn/anaconda/pkg/msys2/noarch
package cache : D:\ANACONDA\pkgs
                  C:\Users\yang\conda\pkgs
                  C:\Users\yang\AppData\Local\conda\conda\pkgs
envs directories : D:\ANACONDA\envs
                  C:\Users\yang\conda\envs
                  C:\Users\yang\AppData\Local\conda\conda\envs
platform : win-64
user-agent : conda/4.12.0 requests/2.27.1 CPython/3.9.12 Windows/10
Windows/10.0.19045
administrator : False
netrc file : None
offline mode : False
```

使用 conda env list 命令查看已有的 Conda 环境的名称和路径

```
(base) yang@LAPTOP-5AL1565V MINGW64 ~
$ conda env list
# conda environments:
#
base * D:\ANACONDA
```

使用 conda create 命令创建两个 Conda 环境, 一个里面安装 Python 3.12 和 requests 软件包, 另一个里面安装 Python 3.9、pandas 和 statsmodels 软件包, 能够在终端里切换 Conda 环境, 验证 Python 和软件包的版本

```
(base) yang@LAPTOP-5AL1565V MINGW64 ~
$ conda create -n py312 python=3.12 requests -y
Collecting package metadata (current_repodata.json): ...working... done
Solving environment: ...working... done
```

```
==> WARNING: A newer version of conda exists. <==
  current version: 4.12.0
  latest version: 25.3.0
```

Please update conda by running

```
$ conda update -n base -c defaults conda
```

```
## Package Plan ##
```

```
environment location: D:\ANACONDA\envs\py312
```

```
added / updated specs:
```

```
- python=3.12
- requests
```

```
Downloading and Extracting Packages
win_inet_pton-1.1.0 | 9 KB | ##### | 100%
cffi-1.17.1 | 281 KB | ##### | 100%
hyperframe-6.1.0 | 17 KB | ##### | 100%
libffi-3.4.6 | 40 KB | ##### | 100%
vc14_runtime-14.42.3 | 734 KB | ##### | 100%
ca-certificates-2025 | 155 KB | ##### | 100%
python_abi-3.12 | 7 KB | ##### | 100%
hpack-4.1.0 | 30 KB | ##### | 100%
certifi-2025.1.31 | 159 KB | ##### | 100%
libexpat-2.6.4 | 136 KB | ##### | 100%
wheel-0.45.1 | 61 KB | ##### | 100%
pysocks-1.7.1 | 21 KB | ##### | 100%
pyparser-2.22 | 108 KB | ##### | 100%
zstandard-0.23.0 | 435 KB | ##### | 100%
charset-normalizer-3 | 46 KB | ##### | 100%
liblzma-5.6.4 | 102 KB | ##### | 100%
python-3.12.9 | 15.2 MB | ##### | 100%
libzlib-1.3.1 | 54 KB | ##### | 100%
ucrt-10.0.22621.0 | 547 KB | ##### | 100%
brotli-python-1.1.0 | 314 KB | ##### | 100%
h2-4.2.0 | 53 KB | ##### | 100%
setuptools-75.8.2 | 760 KB | ##### | 100%
sqlite3-3.49.1 | 1.0 MB | ##### | 100%
urllib3-2.3.0 | 98 KB | ##### | 100%
openssl-3.4.1 | 8.1 MB | ##### | 100%
```

```
Preparing transaction: ...working... done
Verifying transaction: ...working... done
Executing transaction: ...working... done
#
# To activate this environment, use
#
#     $ conda activate py312
#
# To deactivate an active environment, use
#
#     $ conda deactivate
```

```
(base) yang@LAPTOP-5AL1565V MINGW64 ~
$ conda create -n py39 python=3.9 pandas statsmodels -y
Collecting package metadata (current_repodata.json): ...working... done
Solving environment: ...working... done
```

```
==> WARNING: A newer version of conda exists. <==
current version: 4.12.0
latest version: 25.3.0
```

Please update conda by running

```
$ conda update -n base -c defaults conda
```

```
## Package Plan ##
```

```
environment location: D:\ANACONDA\envs\py39
```

```
added / updated specs:
```

- pandas
- python=3.9
- statsmodels

Downloading and Extracting Packages

pytz-2024.1	184 KB	#####	100%
python-dateutil-2.9.	217 KB	#####	100%
numpy-2.0.2	6.0 MB	#####	100%
patsy-1.0.1	182 KB	#####	100%
python_abi-3.9	7 KB	#####	100%
statsmodels-0.14.4	9.8 MB	#####	100%
python-3.9.21	16.2 MB	#####	100%
mk1-2020.4	172.4 MB	##9	30%

```

51K 1.17 MB | 10 KB | ##### | 100%
Preparing transaction: ...working... done
Verifying transaction: ...working... done
Executing transaction: ...working... done
#
# To activate this environment, use
#
#     $ conda activate py39
#
# To deactivate an active environment, use
#
#     $ conda deactivate

```

切换环境

```

(base) yang@LAPTOP-5AL1565V MINGW64 ~
$ conda activate py39
Traceback (most recent call last):
  File "D:\ANACONDA\lib\site-packages\conda\cli\main.py", line 143, in main
    return activator_main()
  File "D:\ANACONDA\lib\site-packages\conda\activate.py", line 1222, in main
    print(activator.execute(), end='')
UnicodeEncodeError: 'gbk' codec can't encode character '\xb3' in position 480: illegal multibyte sequence

During handling of the above exception, another exception occurred:

Traceback (most recent call last):
  File "D:\ANACONDA\lib\site-packages\conda\common\io.py", line 352, in timeout
    return func(*args, **kwargs)
EOFError: EOF when reading a line

During handling of the above exception, another exception occurred:

Traceback (most recent call last):

```

切换时出现错误，经查阅资料发现是编码问题，通过设置编码解决

```

(base) yang@LAPTOP-5AL1565V MINGW64 ~
$ export PYTHONIOENCODING=UTF-8
(base) yang@LAPTOP-5AL1565V MINGW64 ~
$ conda activate py312
(py312) yang@LAPTOP-5AL1565V MINGW64 ~
$

```

使用 `conda list` 命令显示 Conda 环境里的软件包列表及其版本信息

```
(py39) yang@LAPTOP-5AL1565V MINGW64 ~
$ conda list
# packages in environment at D:\ANACONDA\envs\py39:
#
# Name                                Version                                Build                                Channel
bzip2                                1.0.8                                h2466b09_7                          https://mirrors.tuna.tsinghua.edu.cn/anaconda/cloud/conda-forge
ca-certificates                      2025.1.31                            h56e8100_0                          https://mirrors.tuna.tsinghua.edu.cn/anaconda/cloud/conda-forge
intel-openmp                         2025.0.4                             h57928b3_1528                       https://mirrors.tuna.tsinghua.edu.cn/anaconda/cloud/conda-forge
libblas                              3.9.0                                28_h576b46c_mk1                     https://mirrors.tuna.tsinghua.edu.cn/anaconda/cloud/conda-forge
libblas                              3.9.0                                28_h7ad3364_mk1                     https://mirrors.tuna.tsinghua.edu.cn/anaconda/cloud/conda-forge
libffi                               3.4.6                                h537db12_0                          https://mirrors.tuna.tsinghua.edu.cn/anaconda/cloud/conda-forge
liblapack                            3.9.0                                28_hacfb0e4_mk1                     https://mirrors.tuna.tsinghua.edu.cn/anaconda/cloud/conda-forge
liblzma                              5.6.4                                h2466b09_0                          https://mirrors.tuna.tsinghua.edu.cn/anaconda/cloud/conda-forge
libsqlite                             3.49.1                              h67fdade_2                          https://mirrors.tuna.tsinghua.edu.cn/anaconda/cloud/conda-forge
```

使用 `conda install` 命令往 Conda 环境里安装更多的软件包

```
(py39) yang@LAPTOP-5AL1565V MINGW64 ~
$ conda install numpy matplotlib -y
Collecting package metadata (current_repodata.json): ...working... done
Solving environment: ...working... done

==> WARNING: A newer version of conda exists. <==
  current version: 4.12.0
  latest version: 25.3.0

Please update conda by running

  $ conda update -n base -c defaults conda

## Package Plan ##

environment location: D:\ANACONDA\envs\py39

added / updated specs:
- matplotlib
- numpy

The following packages will be downloaded:

package | build | size | channel
-----|-----|-----|-----
_openmp_mutex-4.5 | 2_gnu | 48 KB | https://mirrors.tuna.tsinghua.edu.cn/anaconda/cloud/conda-forge
brotli-1.1.0 | h2466b09_2 | 19 KB | https://mirrors.tuna.tsinghua.edu.cn/anaconda/cloud/conda-forge

(py39) yang@LAPTOP-5AL1565V MINGW64 ~
$ conda config --add channels https://mirrors.tuna.tsinghua.edu.cn/anaconda/pkgs/main/
Warning: 'https://mirrors.tuna.tsinghua.edu.cn/anaconda/pkgs/main/' already in 'channels' list, moving to the top
(py39) yang@LAPTOP-5AL1565V MINGW64 ~
$ conda config --add channels conda-forge
(py39) yang@LAPTOP-5AL1565V MINGW64 ~
$
```

使用 `pip install` 命令往 Conda 环境里安装 Python 软件包

```
(py39) yang@LAPTOP-5AL1565V MINGW64 ~
$ pip install flask
Looking in indexes: https://pypi.tuna.tsinghua.edu.cn/simple
Requirement already satisfied: flask in c:\users\yang\appdata\roaming\python\python39\site-packages (3.0.3)
Collecting Werkzeug>=3.0.0 (from flask)
  Downloading https://pypi.tuna.tsinghua.edu.cn/packages/52/24/ab44c871b0f07f491e5d2ad12c9bd7358e527510618cb1b803a88e986db1/werkzeug-3.1.3-py3-none-any.whl (224 kB)
Collecting Jinja2>=3.1.2 (from flask)
  Downloading https://pypi.tuna.tsinghua.edu.cn/packages/62/a1/3d680cbfd5f4b8f15abc1d571870c5fc3e594bb582bc3b64ea099db13e56/jinja2-3.1.6-py3-none-any.whl (134 kB)
Requirement already satisfied: itsdangerous>=2.1.2 in c:\users\yang\appdata\roaming\python\python39\site-packages (from flask) (2.2.0)
Requirement already satisfied: click>=8.1.3 in c:\users\yang\appdata\roaming\python\python39\site-packages (from flask) (8.1.7)
Requirement already satisfied: blinker>=1.6.2 in c:\users\yang\appdata\roaming\python\python39\site-packages (from flask) (1.8.2)
Collecting importlib-metadata>=3.6.0 (from flask)
  Downloading https://pypi.tuna.tsinghua.edu.cn/packages/79/9d/0fb148dc4d6fa4a7dd1d8378168d9b4cd8d4560a6fbf6f0121c5fc34eb68/importlib_metadata-8.6.1-py3-none-any.whl (26 kB)
Collecting colorama (from click>=8.1.3->flask)
  Downloading https://pypi.tuna.tsinghua.edu.cn/packages/d1/d6/3965ed04c63042e047cb6a3e6ed1a63a35087b6a609aa3a15ed8ac56c221/colorama-0.4.6-py2.py3-none-any.whl (25 kB)
Requirement already satisfied: zipp>=3.20 in d:\anaconda\envs\py39\lib\site-packages (from importlib-metadata>=3.6.0->flask) (3.21.0)
Collecting MarkupSafe>=2.0 (from Jinja2>=3.1.2->flask)
  Downloading https://pypi.tuna.tsinghua.edu.cn/packages/b3/73/085399401383ce949f727afec55ec3abd76648d04b9f22e1c0e99cb4bec3/MarkupSafe-3.0.2-cp39-cp39-win_amd64.whl (15 kB)
Installing collected packages: MarkupSafe, importlib-metadata, colorama, Werkzeug, Jinja2
Successfully installed Jinja2-3.1.6 MarkupSafe-3.0.2 Werkzeug-3.1.3 colorama-0.4.6 importlib-metadata-8.6.1
(py39) yang@LAPTOP-5AL1565V MINGW64 ~
```

导出 environment.yml Conda 环境配置文件, 删除 Conda 环境, 用 environment.yml 配置文件重建 Conda 环境

```
(py312) yang@LAPTOP-5AL1565V MINGW64 ~
$ conda env export > environment.yml
(py312) yang@LAPTOP-5AL1565V MINGW64 ~
$ conda env remove -n py312

CondaEnvironmentError: cannot remove current environment. deactivate and run conda remove again

(py312) yang@LAPTOP-5AL1565V MINGW64 ~
$ conda activate base
(base) yang@LAPTOP-5AL1565V MINGW64 ~
$ conda env remove -n py312

Remove all packages in environment D:\ANACONDA\envs\py312:

(base) yang@LAPTOP-5AL1565V MINGW64 ~
$
```

```
(base) yang@LAPTOP-5AL1565V MINGW64 ~
$ conda env create -f environment.yml
Collecting package metadata (repodata.json): ...working... |
```



```

(base) yang@LAPTOP-5AL1565V MINGW64 ~
$ conda env create -f environment.yml
Collecting package metadata (repodata.json): ...working...done
Solving environment: ...working... done

==> WARNING: A newer version of conda exists. <==
  current version: 4.12.0
  latest version: 25.3.0

Please update conda by running

  $ conda update -n base -c defaults conda

Preparing transaction: ...working... done
Verifying transaction: ...working... done
Executing transaction: ...working... done
#
# To activate this environment, use
#
#     $ conda activate py312
#
# To deactivate an active environment, use
#

```

Conda 与 Python 的关系

Conda 是一个开源的包管理工具，它不仅用于安装 Python 软件包，还用于管理环境。它可以安装任何语言的软件包，包括 Python、R、Ruby、Lua、Scala、Java、JavaScript、C/C++ 等等。Conda 可以独立于 Python 进行使用，因此它是一个跨语言的工具。

Python 是一种编程语言，具有丰富的生态系统，包含大量的第三方库和工具。Conda 是一个用于管理 Python 环境及其依赖项的工具。具体来说，Conda 可以帮助你创建虚拟环境，安装和管理 Python 及其依赖的库，解决依赖关系冲突等。

Conda 和 Python 的关系总结如下：

- Conda 是包管理工具，可以管理 Python 环境和其他编程语言的包。

- Python 是一种编程语言，Conda 通过安装 Python 解释器并管理其依赖来支持 Python 开发。

Conda-Forge 与 Conda 的关系

Conda 是一个包管理工具，允许用户从不同的渠道 (channels) 安装软件包。Conda-Forge 是一个社区驱动的 Conda 包仓库 (channel)。它是一个由开源社区维护的 Conda 包集合，包含了大量的软件包。很多在 Conda 中使用的 Python 软件包都可以通过 Conda-Forge 获得。

Conda 有默认的官方仓库，称为 default channel。但由于 Conda-Forge 拥有更多包，并且更新速度较快，许多人会选择从 Conda-Forge 安装包。Conda-Forge 是一个活跃的社区，由全球的开发者提供支持，致力于构建和维护高质量的软件包。

- Conda 默认使用官方仓库提供的软件包。

- Conda-Forge 是一个开源社区维护的仓库，提供大量的软件包，特别是那些官方 Conda 仓库中没有的软件包。

Python 解释器、第三方软件包、PyPI 软件仓库、以及程序/软件包的路径问题

1. Python 解释器

Python 解释器是执行 Python 代码的程序。当你运行一个 Python 程序时，实际上是通过 Python 解释器来执行代码。Python 解释器负责解析和执行 Python 代码，并且它需要安装在计算机上。

默认情况下，Python 解释器的路径通常会添加到系统的环境变量中，从而在终端或命令行中可以直接调用 `python` 或 `python3` 命令。

你可以安装多个版本的 Python 解释器，并通过 `pyenv`、`conda` 环境等工具来管理不同版本的 Python。

2. 第三方软件包

第三方软件包是由 Python 社区或其他开发者创建的，提供特定功能的库或模块。这些软件包并不是 Python 标准库的一部分，但可以通过工具如 `pip`、`conda` 安装并使用。

这些软件包可以提供广泛的功能，如科学计算 (`NumPy`、`SciPy`)、数据分析 (`Pandas`)、机器学习 (`scikit-learn`)、Web 开发 (`Django`、`Flask`) 等。

3. PyPI 软件仓库

PyPI (Python Package Index) 是 Python 的官方软件包仓库。它是一个在线平台，开发者可以将他们的 Python 软件包上传到 PyPI，供其他开发者使用。PyPI 是 Python 官方推荐的获取和管理第三方包的方式。

使用 `pip` 可以从 PyPI 安装软件包。例如，`pip install numpy` 会从 PyPI 下载并安装 `NumPy` 库。

PyPI 是针对 Python 软件包的中央存储库，并且通常是安装第三方库时的首选来源。

4. 程序/软件包的路径问题

在开发和运行 Python 程序时，软件包和程序的路径问题涉及到多个方面，包括 Python 环境、包管理工具、系统路径等。

环境路径 (Environment Path): 系统环境变量 `PATH` 存储了可执行文件的路径。如果 Python 或其相关的工具 (如 `pip`) 没有被正确地添加到系统的 `PATH` 环境变量中，系统就无法直接访问 Python 解释器或相关的工具。

Python 环境路径: Python 安装过程中，解释器和包文件会被放在一个特定的文件夹路径中。每个虚拟环境或 `Conda` 环境都会有自己独立的 Python 解释器和包路径。通过激活虚拟环境，你可以在该环境中使用不同版本的 Python 和包。

包的路径管理: 当你通过 `pip` 或 `conda` 安装一个包时，它会被安装到一个特定的目录中，这个目录通常位于 Python 安装目录下 (如 `lib/pythonX.X/site-packages/`)。你可以通过 `sys.path` 查看 Python 的包路径。

Conda 环境中的路径问题: 在 `Conda` 环境中，当你创建一个新的环境时，它会创建一个独立的目录来存放该环境的 Python 解释器和所有安装的包。在激活环境时，Python 解释器会指向该环境的 Python 版本和包路径。

路径冲突问题: 如果多个版本的 Python 或软件包安装在不同路径下，可能会导致路径冲突或找不到合适的解释器。为了避免这种问题，使用虚拟环境 (如 `venv` 或 `Conda` 环境) 可以确保不同的项目使用隔离的环境和依赖。

在 VS Code 文本编辑器里安装一些支持 Python 开发的常用扩展，编写 `main.py` 脚本，创建该项目专用的 `Conda` 环境，在终端里激活该环境并成功运行该脚本

```
(base) yang@LAPTOP-5AL1565V MINGW64 /d/pro
$ mkdir my_project && cd my_project
(base) yang@LAPTOP-5AL1565V MINGW64 /d/pro/my_project
$ conda create -n project_env python=3.10 -y
Collecting package metadata (current_repodata.json): ...working... done
Solving environment: ...working... done
```

```
==> WARNING: A newer version of conda exists. <==
  current version: 4.12.0
  latest version: 25.3.0
```

Please update conda by running

```
$ conda update -n base -c defaults conda
```

```
## Package Plan ##
```

```
environment location: D:\ANACONDA\envs\project_env
```

```
Preparing transaction: ...working... done
Verifying transaction: ...working... done
Executing transaction: ...working... done
```

```
#
# To activate this environment, use
```

```
# $ conda activate project_env
```

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

```
# $ conda deactivate
```

```
(base) yang@LAPTOP-5AL1565V MINGW64 /d/pro/my_project
$ conda activate project_env
(project_env) yang@LAPTOP-5AL1565V MINGW64 /d/pro/my_project
$ |
```

```
(base) yang@LAPTOP-5AL1565V MINGW64 /d/pro/my_project
$ conda activate project_env
(project_env) yang@LAPTOP-5AL1565V MINGW64 /d/pro/my_project
$ python main.py
Hello, Conda!
(project_env) yang@LAPTOP-5AL1565V MINGW64 /d/pro/my_project
```

抓取数据

curl

-O

https://edg.epa.gov/EPADDataCommons/public/OA/EPA_SmartLocationDatabase_V3_Jan_2021_Final.csv

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
37	36	4.81E+11	4.81E+11	48	113	17201	4	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	218.8671	0	218.8671	207.6538	1398	411	322	0.521
38	37	4.81E+11	4.81E+11	48	113	18124	1	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	3862.367	32.46548	3829.901	3408.053	8441	2912	2745	0.622
39	38	4.81E+11	4.81E+11	48	113	19026	5	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	150.0557	0	150.0557	150.0557	893	328	312	0.531
40	39	4.81E+11	4.81E+11	48	113	7909	1	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	28.05326	0	28.05326	28.05326	1016	699	655	0.894
41	40	4.81E+11	4.81E+11	48	113	13804	2	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	146.6178	0	146.6178	146.592	1799	574	555	0.472
42	41	4.81E+11	4.81E+11	48	113	9304	1	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	293.2788	0	293.2788	293.2788	1174	424	379	0.618
43	42	4.83E+11	4.83E+11	48	339	694201	3	288	Houston-Foi	26420	Houston-Foi	6779104	2975382	2886903	3620.351	1441.682	2178.668	2178.668	2752	1391	1049	0.555
44	43	4.83E+11	4.83E+11	48	339	690202	5	288	Houston-Foi	26420	Houston-Foi	6779104	2975382	2886903	2800.112	11.65398	2788.459	2788.459	2235	704	704	0.614
45	44	4.83E+11	4.83E+11	48	339	692001	6	288	Houston-Foi	26420	Houston-Foi	6779104	2975382	2886903	739.9175	0	739.9175	739.9175	1062	626	487	0.64
46	45	4.81E+11	4.81E+11	48	113	16518	2	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	226.009	3.713172	222.2959	174.7106	1250	501	371	0.561
47	46	4.81E+11	4.81E+11	48	113	11001	1	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	123.4131	0	123.4131	123.4131	1412	393	393	0.508
48	47	4.81E+11	4.81E+11	48	113	14702	3	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	43.40682	0	43.40682	43.40682	1962	532	479	0.555
49	48	4.81E+11	4.81E+11	48	113	18132	3	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	271.4354	0.373615	271.0618	270.1185	1268	570	570	0.68
50	49	4.81E+11	4.81E+11	48	113	19502	2	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	88.20037	0	88.20037	88.20037	1425	516	516	0.56
51	50	4.81E+11	4.81E+11	48	113	19302	2	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	91.9385	0	91.9385	87.20863	1311	395	346	0.583
52	51	4.81E+11	4.81E+11	48	113	7826	1	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	146.234	0	146.234	69.60911	987	633	548	0.737
53	52	4.81E+11	4.81E+11	48	113	7815	3	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	162.8216	0	162.8216	77.09944	3083	1221	1037	0.614
54	53	4.81E+11	4.81E+11	48	113	7815	2	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	123.1401	0	123.1401	123.1401	2123	857	732	0.649
55	54	4.81E+11	4.81E+11	48	113	13615	1	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	55.87746	0	55.87746	55.87746	1741	1083	1015	0.706
56	55	4.81E+11	4.81E+11	48	113	13726	2	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	251.5809	0	251.5809	202.5208	2144	1115	1026	0.694
57	56	4.81E+11	4.81E+11	48	113	13713	1	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	136.2406	0	136.2406	136.2406	914	260	221	0.519
58	57	4.81E+11	4.81E+11	48	113	15206	1	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	136.3777	0	136.3777	136.3777	2786	668	668	0.475
59	58	4.81E+11	4.81E+11	48	113	15206	2	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	149.9539	0	149.9539	149.9539	1654	389	389	0.539
60	59	4.81E+11	4.81E+11	48	113	15401	5	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	183.7001	0	183.7001	183.7001	708	287	287	0.614
61	60	4.81E+11	4.81E+11	48	113	14702	2	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	115.1619	0	115.1619	115.1619	394	184	148	0.668
62	61	4.81E+11	4.81E+11	48	113	5000	1	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	112.4688	0	112.4688	112.4688	839	189	153	0.513
63	62	4.81E+11	4.81E+11	48	113	5000	2	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	84.83981	0	84.83981	84.07282	1264	412	375	0.663
64	63	4.81E+11	4.81E+11	48	113	5000	3	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	152.6586	0	152.6586	144.2905	1624	581	535	0.627
65	64	4.81E+11	4.81E+11	48	113	7902	4	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	67.45632	0	67.45632	67.45632	623	545	309	0.815
66	65	4.81E+11	4.81E+11	48	113	7914	2	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	30.94236	0	30.94236	30.94236	935	617	573	0.866
67	66	4.81E+11	4.81E+11	48	113	7914	1	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	180.5624	0	180.5624	180.5624	2047	1400	1053	0.874
68	67	4.81E+11	4.81E+11	48	113	7906	1	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	113.3213	0	113.3213	113.3213	825	351	320	0.572
69	68	4.81E+11	4.81E+11	48	113	7912	1	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	77.6193	0	77.6193	77.6193	927	624	564	0.948
70	69	4.81E+11	4.81E+11	48	113	7911	1	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	49.28681	0	49.28681	49.28681	1815	1383	1106	0.841
71	70	4.81E+11	4.81E+11	48	113	7911	2	206	Dallas-Foi	19100	Dallas-Foi	7189384	3545715	3364458	54.55523	0	54.55523	54.55523	1004	709	671	0.928

```

(project_env) yang@LAPTOP-5AL1565V MINGW64 /d/pro/my_project
$ python main.py
6.35% of U.S. residents live in highlywalkable neighborhoods.
(project_env) yang@LAPTOP-5AL1565V MINGW64 /d/pro/my_project
$ |

```