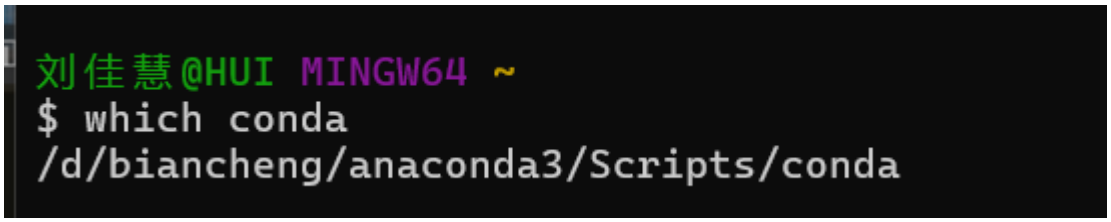
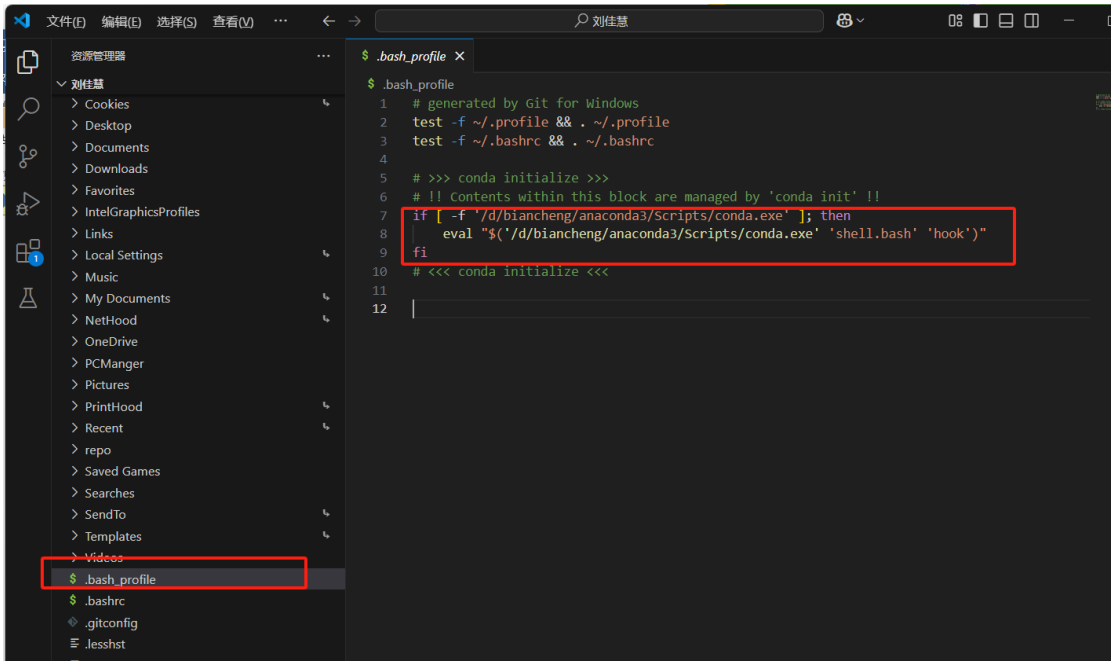
在自己的终端（比如 Git Bash、Zsh 等）配置好 Conda Init，使得启动终端后，在提示符（比如 $、%）前能够看到 (base)

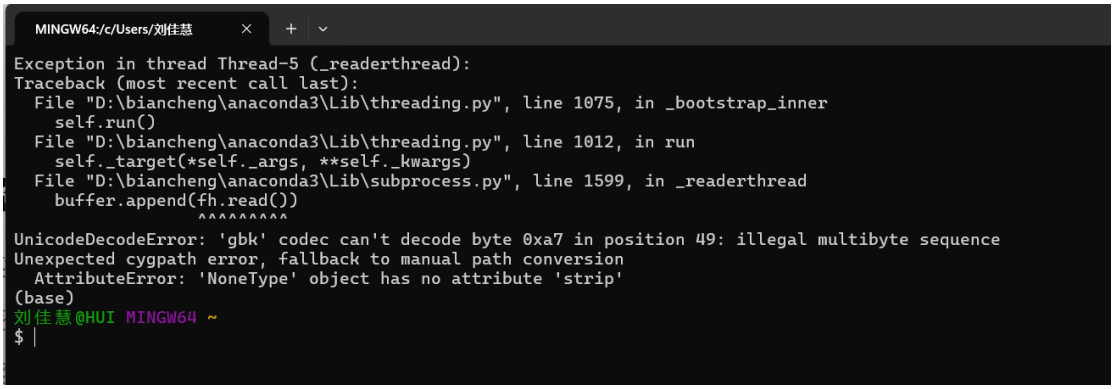



```
刘佳慧@HUI MINGW64 ~
$ conda init --help
usage: conda-script.py init [-h] [--all] [--user] [--no-user] [--system] [--reverse] [--anaconda-prompt] [--json] [-v]
                            [-q] [-d]
                            [SHELLS ...]

Initialize conda for shell interaction.

positional arguments:
  SHELLS             One or more shells to be initialized. If not given, the default value is 'bash' on unix and
                     'cmd.exe' & 'powershell' on Windows. Use the '--all' flag to initialize all shells. Available
                     shells: ['bash', 'cmd.exe', 'fish', 'powershell', 'tcsh', 'xonsh', 'zsh']

options:
  -h, --help         Show this help message and exit.
  --all              Initialize all currently available shells.
  --anaconda-prompt  Add an 'Anaconda Prompt' icon to your desktop.
  -d, --dry-run      Only display what would have been done.

setup type:
  --user             Initialize conda for the current user (default).
  --no-user          Don't initialize conda for the current user.
  --system           Initialize conda for all users on the system.
  --reverse          Undo effects of last conda init.

Output, Prompt, and Flow Control Options:
  --json             Report all output as json. Suitable for using conda programmatically.
  -v, --verbose      Can be used multiple times. Once for detailed output, twice for INFO logging, thrice for DEBUG
                     logging, four times for TRACE logging.
  -q, --quiet        Do not display progress bar.

Key parts of conda's functionality require that it interact directly with the shell
within which conda is being invoked. The `conda activate` and `conda deactivate` commands
specifically are shell-level commands. That is, they affect the state (e.g. environment
variables) of the shell context being interacted with. Other core commands, like
`conda create` and `conda install`, also necessarily interact with the shell environment.
They're therefore implemented in ways specific to each shell. Each shell must be configured
to make use of them.

This command makes changes to your system that are specific and customized for each shell.
To see the specific files and locations on your system that will be affected before, use
```

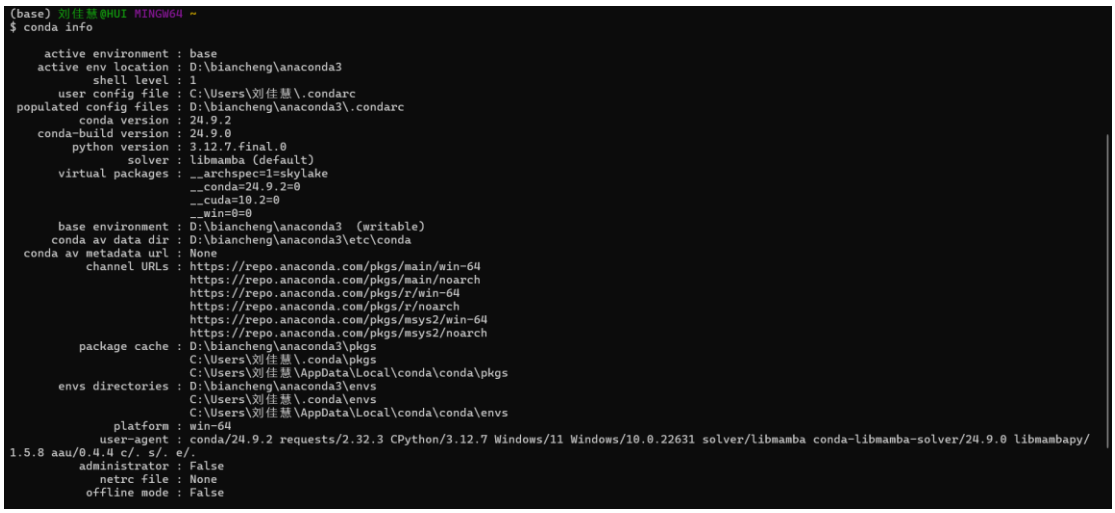
```
刘佳慧@HUI MINGW64 ~
$ conda init bash
no change     D:\biancheng\anaconda3\Scripts\conda.exe
no change     D:\biancheng\anaconda3\Scripts\conda-env.exe
no change     D:\biancheng\anaconda3\Scripts\conda-script.py
no change     D:\biancheng\anaconda3\Scripts\conda-env-script.py
no change     D:\biancheng\anaconda3\condabin\conda.bat
no change     D:\biancheng\anaconda3\Library\bin\conda.bat
no change     D:\biancheng\anaconda3\condabin\_conda_activate.bat
no change     D:\biancheng\anaconda3\condabin\rename_tmp.bat
no change     D:\biancheng\anaconda3\condabin\conda_auto_activate.bat
no change     D:\biancheng\anaconda3\condabin\conda_hook.bat
no change     D:\biancheng\anaconda3\Scripts\activate.bat
no change     D:\biancheng\anaconda3\condabin\activate.bat
no change     D:\biancheng\anaconda3\condabin\deactivate.bat
no change     D:\biancheng\anaconda3\Scripts\activate
no change     D:\biancheng\anaconda3\Scripts\deactivate
no change     D:\biancheng\anaconda3\etc\profile.d\conda.sh
no change     D:\biancheng\anaconda3\etc\fish\conf.d\conda.fish
no change     D:\biancheng\anaconda3\shell\condabin\Conda.psm1
no change     D:\biancheng\anaconda3\shell\condabin\conda-hook.ps1
no change     D:\biancheng\anaconda3\Lib\site-packages\xontrib\conda.xsh
no change     D:\biancheng\anaconda3\etc\profile.d\conda.csh
modified      C:\Users\刘佳慧\.bash_profile

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


刘佳慧@HUI MINGW64 ~
$ pwd
/c/Users/刘佳慧

刘佳慧@HUI MINGW64 ~
$ code .
```



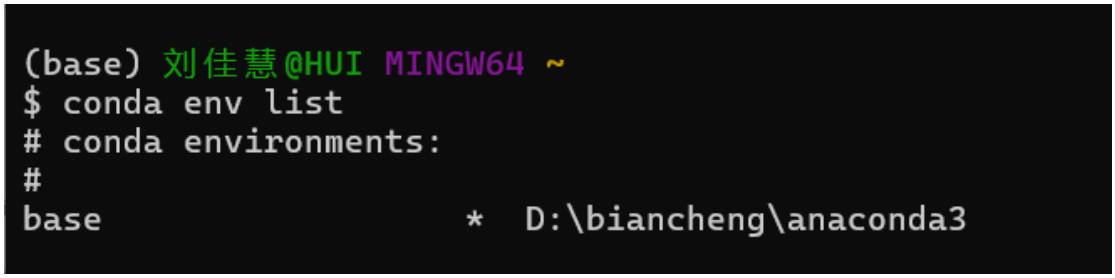
配置时遇到问题



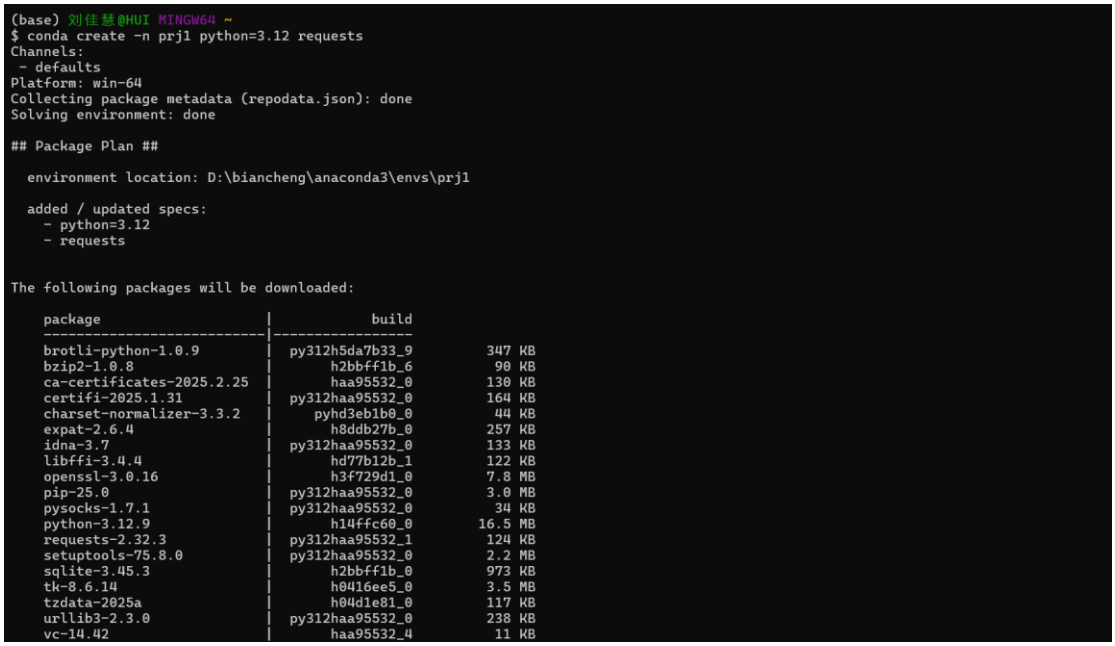
2.使用 conda info 命令查看本机 Conda 的配置信息

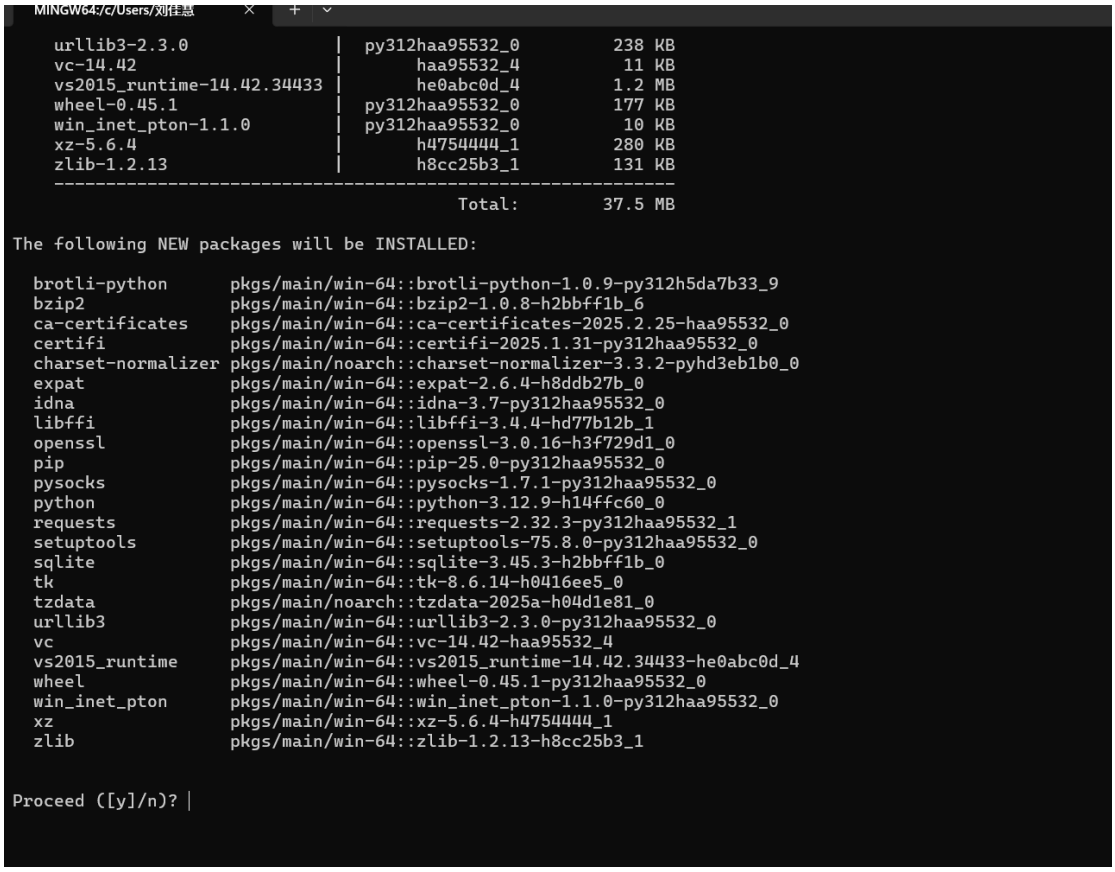


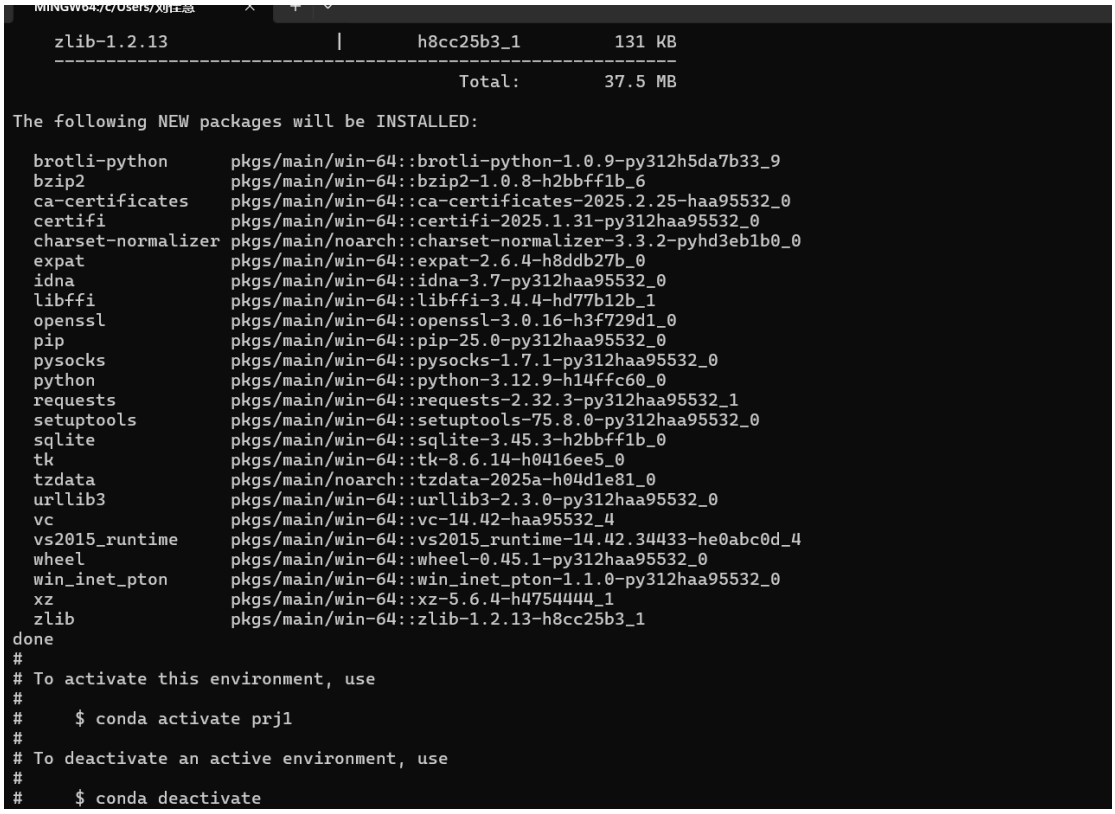
使用 conda env list 命令查看已有的 Conda 环境的名称和路径，理解 **Conda 环境** 的概念



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




MINGW64:/c/Users/刘佳慧
urllib3-2.3.0 | py312haa95532_0 238 KB
vc-14.42 | haa95532_4 11 KB
vs2015_runtime-14.42.34433 | he0abc0d_4 1.2 MB
wheel-0.45.1 | py312haa95532_0 177 KB
win_inet_pton-1.1.0 | py312haa95532_0 10 KB
xz-5.6.4 | h4754444_1 280 KB
zlib-1.2.13 | h8cc25b3_1 131 KB
Total: 37.5 MB
The following NEW packages will be INSTALLED:
brotli-python pkgs/main/win-64::brotli-python-1.0.9-py312h5da7b33_9
bzip2 pkgs/main/win-64::bzip2-1.0.8-h2bbff1b_6
ca-certificates pkgs/main/win-64::ca-certificates-2025.2.25-haa95532_0
certifi pkgs/main/win-64::certifi-2025.1.31-py312haa95532_0
charset-normalizer pkgs/main/noarch::charset-normalizer-3.3.2-pyhd3eb1b0_0
expat pkgs/main/win-64::expat-2.6.4-h8ddb27b_0
idna pkgs/main/win-64::idna-3.7-py312haa95532_0
libffi pkgs/main/win-64::libffi-3.4.4-hd77b12b_1
openssl pkgs/main/win-64::openssl-3.0.16-h3f729d1_0
pip pkgs/main/win-64::pip-25.0-py312haa95532_0
pysocks pkgs/main/win-64::pysocks-1.7.1-py312haa95532_0
python pkgs/main/win-64::python-3.12.9-h14ffc60_0
requests pkgs/main/win-64::requests-2.32.3-py312haa95532_1
setuptools pkgs/main/win-64::setuptools-75.8.0-py312haa95532_0
sqlite pkgs/main/win-64::sqlite-3.45.3-h2bbff1b_0
tk pkgs/main/win-64::tk-8.6.14-h0416ee5_0
tzdata pkgs/main/noarch::tzdata-2025a-h04d1e81_0
urllib3 pkgs/main/win-64::urllib3-2.3.0-py312haa95532_0
vc pkgs/main/win-64::vc-14.42-haa95532_4
vs2015_runtime pkgs/main/win-64::vs2015_runtime-14.42.34433-he0abc0d_4
wheel pkgs/main/win-64::wheel-0.45.1-py312haa95532_0
win_inet_pton pkgs/main/win-64::win_inet_pton-1.1.0-py312haa95532_0
xz pkgs/main/win-64::xz-5.6.4-h4754444_1
zlib pkgs/main/win-64::zlib-1.2.13-h8cc25b3_1
Proceed ([y]/n)?


MINGW64:/c/Users/刘佳慧
zlib-1.2.13 | h8cc25b3_1 131 KB
Total: 37.5 MB
The following NEW packages will be INSTALLED:
brotli-python pkgs/main/win-64::brotli-python-1.0.9-py312h5da7b33_9
bzip2 pkgs/main/win-64::bzip2-1.0.8-h2bbff1b_6
ca-certificates pkgs/main/win-64::ca-certificates-2025.2.25-haa95532_0
certifi pkgs/main/win-64::certifi-2025.1.31-py312haa95532_0
charset-normalizer pkgs/main/noarch::charset-normalizer-3.3.2-pyhd3eb1b0_0
expat pkgs/main/win-64::expat-2.6.4-h8ddb27b_0
idna pkgs/main/win-64::idna-3.7-py312haa95532_0
libffi pkgs/main/win-64::libffi-3.4.4-hd77b12b_1
openssl pkgs/main/win-64::openssl-3.0.16-h3f729d1_0
pip pkgs/main/win-64::pip-25.0-py312haa95532_0
pysocks pkgs/main/win-64::pysocks-1.7.1-py312haa95532_0
python pkgs/main/win-64::python-3.12.9-h14ffc60_0
requests pkgs/main/win-64::requests-2.32.3-py312haa95532_1
setuptools pkgs/main/win-64::setuptools-75.8.0-py312haa95532_0
sqlite pkgs/main/win-64::sqlite-3.45.3-h2bbff1b_0
tk pkgs/main/win-64::tk-8.6.14-h0416ee5_0
tzdata pkgs/main/noarch::tzdata-2025a-h04d1e81_0
urllib3 pkgs/main/win-64::urllib3-2.3.0-py312haa95532_0
vc pkgs/main/win-64::vc-14.42-haa95532_4
vs2015_runtime pkgs/main/win-64::vs2015_runtime-14.42.34433-he0abc0d_4
wheel pkgs/main/win-64::wheel-0.45.1-py312haa95532_0
win_inet_pton pkgs/main/win-64::win_inet_pton-1.1.0-py312haa95532_0
xz pkgs/main/win-64::xz-5.6.4-h4754444_1
zlib pkgs/main/win-64::zlib-1.2.13-h8cc25b3_1
done
#
To activate this environment, use
#
$ conda activate prj1
#
To deactivate an active environment, use
#
$ conda deactivate

```
(base) 刘佳慧@HUI MINGW64 ~
$ conda create -n prj2 python=3.9 pandas statsmodels
Channels:
 - defaults
Platform: win-64
Collecting package metadata (repodata.json): done
Solving environment: done

## Package Plan ##

  environment location: D:\biancheng\anaconda3\envs\prj2

  added / updated specs:
    - pandas
    - python=3.9
    - statsmodels
```

```
  numpy-base          pkgs/main/win-64::numpy-base-2.0.2-py39h65a83cf_0
  openssl             pkgs/main/win-64::openssl-3.0.16-h3f729d1_0
  packaging           pkgs/main/win-64::packaging-24.2-py39haa95532_0
  pandas              pkgs/main/win-64::pandas-2.2.3-py39h5da7b33_0
  patsy               pkgs/main/win-64::patsy-1.0.1-py39haa95532_0
  pip                 pkgs/main/win-64::pip-25.0-py39haa95532_0
  pybind11-abi        pkgs/main/noarch::pybind11-abi-5-hd3eb1b0_0
  python              pkgs/main/win-64::python-3.9.21-h8205438_1
  python-dateutil     pkgs/main/win-64::python-dateutil-2.9.0post0-py39haa95532_2
  python-tzdata       pkgs/main/noarch::python-tzdata-2023.3-pyhd3eb1b0_0
  pytz                pkgs/main/win-64::pytz-2024.1-py39haa95532_0
  scipy               pkgs/main/win-64::scipy-1.13.1-py39h8640f81_1
done
#
# To activate this environment, use
#
#     $ conda activate prj2
#
# To deactivate an active environment, use
#
#     $ conda deactivate
```

```
(base) 刘佳慧@HUI MINGW64 ~
$ conda env list
# conda environments:
#
base                  *  D:\biancheng\anaconda3
prj1                     D:\biancheng\anaconda3\envs\prj1
prj2                     D:\biancheng\anaconda3\envs\prj2
```

```
(base) 刘佳慧@HUI MINGW64 ~
$ conda activate prj1
(prj1) 刘佳慧@HUI MINGW64 ~
$ which python
/d/biancheng/anaconda3/envs/prj1/python
(prj1) 刘佳慧@HUI MINGW64 ~
$ python --version
Python 3.12.9
(prj1) 刘佳慧@HUI 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.
>>> quit()
```

```
(prj1) 刘佳慧@HUI MINGW64 ~
$ conda activate prj2
(prj2) 刘佳慧@HUI MINGW64 ~
$ which python
/d/biancheng/anaconda3/envs/prj2/python
(prj2) 刘佳慧@HUI MINGW64 ~
$ python --version
Python 3.9.21
(prj2) 刘佳慧@HUI 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 requests
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
ModuleNotFoundError: No module named 'requests'
>>> import pandas
>>> pandas.__file__
'D:\\biancheng\\anaconda3\\envs\\prj2\\lib\\site-packages\\pandas\\__init__.py'
>>> pandas --version
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
NameError: name 'version' is not defined
>>> pandas.__version__
'2.2.3'
>>> import statsmodels
>>> statsmodels.__version__
'0.14.4'
>>>
```

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

```
(prj2) 刘佳慧@HUI MINGW64 ~
$ conda list
# packages in environment at D:\biancheng\anaconda3\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
mkl                       2023.1.0         h6b88ed4_46358
mkl-service               2.4.0            py39h827c3e9_2
mkl_fft                   1.3.11           py39h827c3e9_0
mkl_random                1.2.8            py39hc64d2fc_0
numexpr                   2.10.1           py39h4cd664f_0
numpy                     2.0.2            py39h055cbcc_0
numpy-base                2.0.2            py39h65a83cf_0
openssl                   3.0.16               h3f729d1_0
packaging                 24.2             py39haa95532_0
pandas                    2.2.3            py39h5da7b33_0
patsy                     1.0.1            py39haa95532_0
pip                       25.0             py39haa95532_0
pybind11-abi              5                    hd3eb1b0_0
python                    3.9.21               h8205438_1
python-dateutil           2.9.0post0       py39haa95532_2
python-tzdata             2023.3             pyhd3eb1b0_0
pytz                      2024.1           py39haa95532_0
scipy                     1.13.1           py39h8640f81_1
setuptools                72.1.0           py39haa95532_0
six                       1.16.0             pyhd3eb1b0_1
sqlite                    3.45.3               h2bbff1b_0
statsmodels               0.14.4           py39h827c3e9_0
tbb                       2021.8.0             h59b6b97_0
tzdata                    2025a                h04d1e81_0
vc                        14.42                haa95532_4
vs2015_runtime            14.42.34433          he0abc0d_4
wheel                     0.45.1           py39haa95532_0
```

使用 conda install 命令往 Conda 环境里安装更多的软件包，并验证版本

```
(prj1) 刘佳慧@HUI MINGW64 ~
$ conda install ipython
Retrieving notices: ...working... done
Channels:
 - defaults
Platform: win-64
Collecting package metadata (repodata.json): done
Solving environment: done

## Package Plan ##

  environment location: D:\biancheng\anaconda3\envs\prj1

  added / updated specs:
    - ipython


The following packages will be downloaded:

    package                    |            build
    ---------------------------|-----------------
    asttokens-2.0.5            |     pyhd3eb1b0_0          20 KB
    colorama-0.4.6             |  py312haa95532_0          53 KB
    decorator-5.1.1            |     pyhd3eb1b0_0          12 KB
    executing-0.8.3            |     pyhd3eb1b0_0          18 KB
    ipython-8.30.0             |  py312haa95532_0         1.5 MB
    jedi-0.19.2                |  py312haa95532_0         1.2 MB
    matplotlib-inline-0.1.6    |  py312haa95532_0          19 KB
    parso-0.8.4                |  py312haa95532_0         239 KB
    prompt-toolkit-3.0.43      |  py312haa95532_0         733 KB
    prompt_toolkit-3.0.43      |       hd3eb1b0_0           5 KB
    pure_eval-0.2.2            |     pyhd3eb1b0_0          14 KB
    pygments-2.15.1            |  py312haa95532_1         1.8 MB
    stack_data-0.2.0           |     pyhd3eb1b0_0          22 KB
    traitlets-5.14.3           |  py312haa95532_0         221 KB
    wcwidth-0.2.5              |     pyhd3eb1b0_0          26 KB
    ------------------------------------------------------------
                                           Total:         5.8 MB

The following NEW packages will be INSTALLED:
```

```
(prj1) 刘佳慧@HUI MINGW64 ~
$ conda list
# packages in environment at D:\biancheng\anaconda3\envs\prj1:
#
# Name                    Version                   Build  Channel
asttokens                 2.0.5              pyhd3eb1b0_0
brotli-python             1.0.9           py312h5da7b33_9
bzip2                     1.0.8                h2bbff1b_6
ca-certificates           2025.2.25            haa95532_0
certifi                   2025.1.31       py312haa95532_0
charset-normalizer        3.3.2              pyhd3eb1b0_0
colorama                  0.4.6           py312haa95532_0
decorator                 5.1.1              pyhd3eb1b0_0
executing                 0.8.3              pyhd3eb1b0_0
expat                     2.6.4                h8ddb27b_0
idna                      3.7             py312haa95532_0
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
setuptools                75.8.0          py312haa95532_0
six                       1.16.0             pyhd3eb1b0_1
sqlite                    3.45.3               h2bbff1b_0
stack_data                0.2.0              pyhd3eb1b0_0
tk                        8.6.14               h0416ee5_0
traitlets                 5.14.3          py312haa95532_0
tzdata                    2025a                h04d1e81_0
urllib3                   2.3.0           py312haa95532_0
vc                        14.42                haa95532_4
vs2015_runtime            14.42.34433          he0abc0d_4
wcwidth                   0.2.5              pyhd3eb1b0_0
```

根据 文档，配置 Anaconda 清华镜像，加快 conda install 安装软件包的速度，将 conda-forge 设置为默认 Channel，让 conda install 能够安装更多的软件包

```
$ git-prompt.sh    ! .condarc
! .condarc
1   channels:
2     - defaults
3   show_channel_urls: true
4   default_channels:
5     - https://mirrors.tuna.tsinghua.edu.cn/anaconda/pkgs/main
6     - https://mirrors.tuna.tsinghua.edu.cn/anaconda/pkgs/r
7     - https://mirrors.tuna.tsinghua.edu.cn/anaconda/pkgs/msys2
8   custom_channels:
9     conda-forge: https://mirrors.tuna.tsinghua.edu.cn/anaconda/cloud
10    pytorch: https://mirrors.tuna.tsinghua.edu.cn/anaconda/cloud
```

使用 pip install 命令往 Conda 环境里安装 Python 软件包，并验证版本

```
(prj1) 刘佳慧@HUI MINGW64 ~
$ pip install tushare
Collecting tushare
  Downloading tushare-1.4.19-py3-none-any.whl.metadata (3.1 kB)
Collecting pandas (from tushare)
  Downloading pandas-2.2.3-cp312-cp312-win_amd64.whl.metadata (19 kB)
Requirement already satisfied: requests in d:\biancheng\anaconda3\envs\prj1\lib\site-packages (from tushare) (2.32.3)
Collecting lxml (from tushare)
  Downloading lxml-5.3.1-cp312-cp312-win_amd64.whl.metadata (3.8 kB)
Collecting simplejson (from tushare)
  Downloading simplejson-3.20.1-cp312-cp312-win_amd64.whl.metadata (3.4 kB)
Collecting bs4 (from tushare)
  Downloading bs4-0.0.2-py2.py3-none-any.whl.metadata (411 bytes)
Collecting websocket-client>=0.57.0 (from tushare)
  Downloading websocket_client-1.8.0-py3-none-any.whl.metadata (8.0 kB)
Collecting tqdm (from tushare)
  Downloading tqdm-4.67.1-py3-none-any.whl.metadata (57 kB)
Collecting beautifulsoup4 (from bs4->tushare)
  Downloading beautifulsoup4-4.13.3-py3-none-any.whl.metadata (3.8 kB)
Requirement already satisfied: numpy>=1.26.0 in d:\biancheng\anaconda3\envs\prj1\lib\site-packages (from pandas->tushare
) (2.2.4)
Collecting python-dateutil>=2.8.2 (from pandas->tushare)
  Downloading python_dateutil-2.9.0.post0-py2.py3-none-any.whl.metadata (8.4 kB)
Collecting pytz>=2020.1 (from pandas->tushare)
  Downloading pytz-2025.1-py2.py3-none-any.whl.metadata (22 kB)
Collecting tzdata>=2022.7 (from pandas->tushare)
  Downloading tzdata-2025.1-py2.py3-none-any.whl.metadata (1.4 kB)
Requirement already satisfied: charset-normalizer<4,>=2 in d:\biancheng\anaconda3\envs\prj1\lib\site-packages (from requ
```

根据 文档 配置 PyPI 清华镜像，加快 pip install 安装软件包的速度

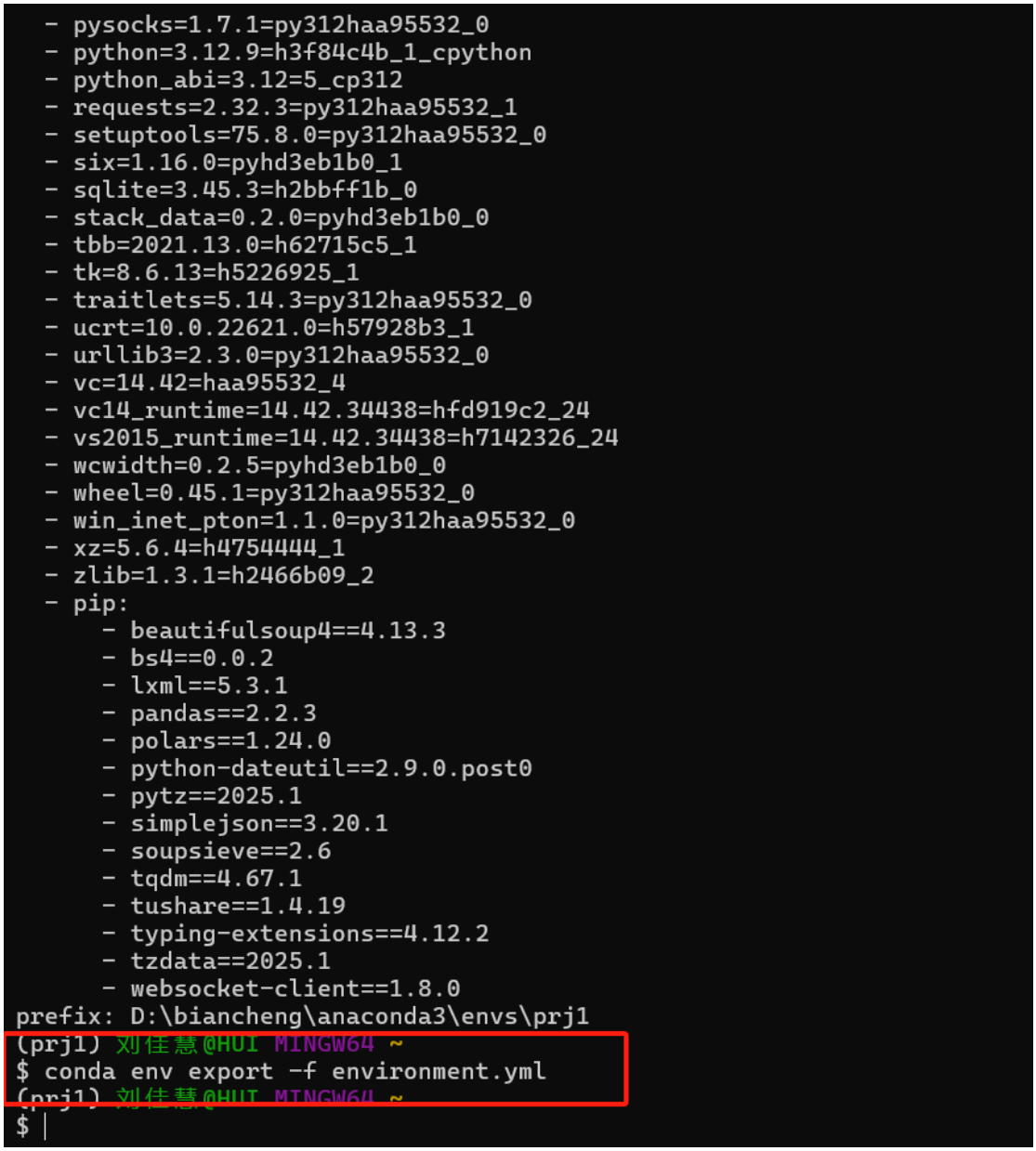
```
(base) 刘佳慧@HUI MINGW64 ~
$ python -m pip install --upgrade pip
Requirement already satisfied: pip in d:\biancheng\anaconda3\lib\site-packages (24.2)
Collecting pip
  Downloading pip-25.0.1-py3-none-any.whl.metadata (3.7 kB)
Downloading pip-25.0.1-py3-none-any.whl (1.8 MB)
   ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 1.8/1.8 MB 4.0 MB/s eta 0:00:00
Installing collected packages: pip
  Attempting uninstall: pip
    Found existing installation: pip 24.2
    Uninstalling pip-24.2:
      Successfully uninstalled pip-24.2
Successfully installed pip-25.0.1
(base) 刘佳慧@HUI MINGW64 ~
$ pip config set global.index-url https://mirrors.tuna.tsinghua.edu.cn/pypi/web/simple
Writing to C:\Users\刘佳慧\AppData\Roaming\pip\pip.ini
(base) 刘佳慧@HUI MINGW64 ~
$
```

```
(prj1) 刘佳慧@HUI MINGW64 ~
$ pip install tushare
Looking in indexes: https://mirrors.tuna.tsinghua.edu.cn/pypi/web/simple
Collecting tushare
  Downloading https://mirrors.tuna.tsinghua.edu.cn/pypi/web/packages/2b/b1/8aa06e934b77892062404777 0cc8fd5518a1e9d3066043150a691f71edc1/tushare-1.4.19-py3-none-any.whl (142 kB)
Requirement already satisfied: pandas in d:\biancheng\anaconda3\envs\prj1\lib\site-packages (from tushare) (2.2.3)
Requirement already satisfied: requests in d:\biancheng\anaconda3\envs\prj1\lib\site-packages (from tushare) (2.32.3)
Requirement already satisfied: lxml in d:\biancheng\anaconda3\envs\prj1\lib\site-packages (from tushare) (5.3.1)
Requirement already satisfied: simplejson in d:\biancheng\anaconda3\envs\prj1\lib\site-packages (from tushare) (3.20.1)
Collecting bs4 (from tushare)
  Downloading https://mirrors.tuna.tsinghua.edu.cn/pypi/web/packages/51/bb/bf7aab772a159614954d84aa832c129624ba6c32faa559dfb200a534e50b/bs4-0.0.2-py2.py3-none-any.whl (1.2 kB)
Requirement already satisfied: websocket-client>=0.57.0 in d:\biancheng\anaconda3\envs\prj1\lib\site-packages (from tushare) (1.8.0)
Requirement already satisfied: tqdm in d:\biancheng\anaconda3\envs\prj1\lib\site-packages (from tushare) (4.67.1)
Collecting beautifulsoup4 (from bs4->tushare)
  Downloading https://mirrors.tuna.tsinghua.edu.cn/pypi/web/packages/f9/49/6abb616eb3cbab6a7cca303dc02fdf3836de2e0b834bf966a7f5271a34d8/beautifulsoup4-4.13.3-py3-none-any.whl (186 kB)
Requirement already satisfied: numpy>=1.26.0 in d:\biancheng\anaconda3\envs\prj1\lib\site-packages (from pandas->tushare) (2.2.4)
Requirement already satisfied: python-dateutil>=2.8.2 in d:\biancheng\anaconda3\envs\prj1\lib\site-packages (from pandas->tushare) (2.9.0.post0)
Requirement already satisfied: pytz>=2020.1 in d:\biancheng\anaconda3\envs\prj1\lib\site-packages (from pandas->tushare) (2025.1)
Requirement already satisfied: tzdata>=2022.7 in d:\biancheng\anaconda3\envs\prj1\lib\site-packages (from pandas->tushare) (2025.1)
Requirement already satisfied: charset-normalizer<4,>=2 in d:\biancheng\anaconda3\envs\prj1\lib\site-packages (from requests->tushare) (3.3.2)
Requirement already satisfied: idna<4,>=2.5 in d:\biancheng\anaconda3\envs\prj1\lib\site-packages (from requests->tushare) (3.7)
Requirement already satisfied: urllib3<3,>=1.21.1 in d:\biancheng\anaconda3\envs\prj1\lib\site-packages (from requests->tushare) (2.3.0)
Requirement already satisfied: certifi>=2017.4.17 in d:\biancheng\anaconda3\envs\prj1\lib\site-packages (from requests->tushare) (2025.1.31)
Requirement already satisfied: colorama in d:\biancheng\anaconda3\envs\prj1\lib\site-packages (from tqdm->tushare) (0.4.6)
Requirement already satisfied: six>=1.5 in d:\biancheng\anaconda3\envs\prj1\lib\site-packages (from python-dateutil>=2.8.2->pandas->tushare) (1.16.0)
Requirement already satisfied: soupsieve>1.2 in d:\biancheng\anaconda3\envs\prj1\lib\site-packages (from beautifulsoup4->bs4->tushare) (2.6)
Requirement already satisfied: typing-extensions>=4.0.0 in d:\biancheng\anaconda3\envs\prj1\lib\site-packages (from beautifulsoup4->bs4->tushare) (4.12.2)
Installing collected packages: beautifulsoup4, bs4, tushare
Successfully installed beautifulsoup4-4.13.3 bs4-0.0.2 tushare-1.4.19
(prj1) 刘佳慧@HUI MINGW64 ~
$ conda list
```

```
(prj1) 刘佳慧@HUI MINGW64 ~
$ python
Python 3.12.9 | packaged by conda-forge | (main, Mar  4 2025, 22:37:18) [MSC v.1943 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> import tushare
>>> tushare.__version__
'1.4.19'
>>> tushare.__file__
'D:\\biancheng\\anaconda3\\envs\\prj1\\Lib\\site-packages\\tushare\\__init__.py'
>>>
```

能够导出 environment.yml Conda 环境配置文件，能够删除 Conda 环境，能够用 environment.yml 配置文件重建 Conda 环境

```
(prj1) 刘佳慧@HUI MINGW64 ~
$ conda env export
name: prj1
channels:
  - conda-forge
  - defaults
  - https://repo.anaconda.com/pkgs/main
  - https://repo.anaconda.com/pkgs/r
  - https://repo.anaconda.com/pkgs/msys2
dependencies:
  - asttokens=2.0.5=pyhd3eb1b0_0
  - brotli-python=1.0.9=py312h5da7b33_9
  - bzip2=1.0.8=h2bbff1b_6
  - ca-certificates=2025.2.25=haa95532_0
  - certifi=2025.1.31=pyhd8ed1ab_0
  - charset-normalizer=3.3.2=pyhd3eb1b0_0
  - colorama=0.4.6=py312haa95532_0
  - decorator=5.1.1=pyhd3eb1b0_0
  - executing=0.8.3=pyhd3eb1b0_0
  - expat=2.6.4=h8ddb27b_0
  - idna=3.7=py312haa95532_0
  - intel-openmp=2024.2.1=h57928b3_1083
  - ipython=8.30.0=py312haa95532_0
  - jedi=0.19.2=py312haa95532_0
  - libblas=3.9.0=31_h641d27c_mkl
  - libcblas=3.9.0=31_h5e41251_mkl
  - libexpat=2.6.4=he0c23c2_0
  - libffi=3.4.4=hd77b12b_1
  - libhwloc=2.11.2=default_ha69328c_1001
  - libiconv=1.18=h135ad9c_1
  - liblapack=3.9.0=31_h1aa476e_mkl
  - liblzma=5.6.4=h2466b09_0
  - libsqlite=3.49.1=h67fdade_2
  - libwinpthread=12.0.0.r4.gg4f2fc60ca=h57928b3_9
  - libxml2=2.13.6=he286e8c_0
  - libzlib=1.3.1=h2466b09_2
  - matplotlib-inline=0.1.6=py312haa95532_0
  - mkl=2024.2.2=h66d3029_15
  - numpy=2.2.4=py312h3150e54_0
  - openssl=3.4.1=ha4e3fda_0
  - packaging=24.2=pyhd8ed1ab_2
```



理解 Conda 与 Python 的关系，理解 Conda-Forge 与 Conda 的关系，理解 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

Conda 与 Python 的关系

Conda 是一个跨平台的包管理和环境管理系统，它最初是为 Python 项目设计的，但现在也能管理其他语言的包，如 R、Java 等。而 Python 是一种广泛使用的高级编程语言。它们的关系主要体现在以下方面：

- **环境管理**：Conda 可以为 Python 项目创建独立的虚拟环境，每个环境都有自己独立的 Python 解释器和软件包。这样做可以避免不同项目之间的依赖冲突。例如，项目 A 需要 Python 3.7 和某个库的 1.0 版本，项目 B 需要 Python 3.9 和该库的 2.0 版本，使用 Conda 就能为这两个项目分别创建合适的环境。
- **包管理**：Conda 可以安装、更新和卸载 Python 软件包。你可以使用 `conda install` 命令来安装 Python 库，它会自动处理依赖关系。

Conda-Forge 与 Conda 的关系

Conda-Forge 是一个由社区驱动的 Conda 软件包仓库，它与 Conda 的关系如下：

- **软件包来源**：Conda 本身可以从多个软件包仓库中获取软件包，Conda-Forge 就是其中一个重要的仓库。它提供了大量的跨平台软件包，包括 Python 库以及其他语言的工具。
- **社区支持**：Conda-Forge 由社区维护，因此它的软件包更新速度通常较快，并且会包含一些 Conda 默认仓库中没有的软件包。你可以通过 `conda config --add channels conda-forge` 命令将 Conda-Forge 仓库添加到 Conda 的渠道列表中，这样在使用 `conda install` 命令时，Conda 就会从 Conda-Forge 仓库中查找所需的软件包。

Python 解释器、第三方软件包、PyPI 软件仓库的关系

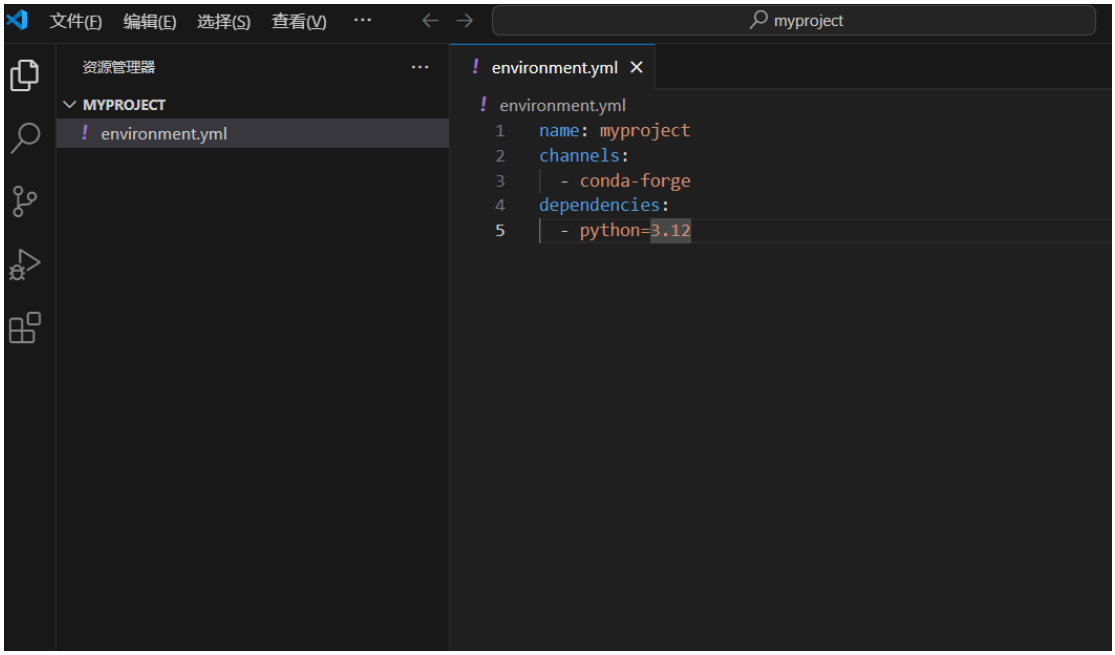
- **Python 解释器**：是执行 Python 代码的程序。当你编写 Python 脚本并运行时，Python 解释器会逐行读取并执行代码。不同版本的 Python 解释器可能会有不同的语法支持和特性。
- **第三方软件包**：是由开发者社区开发的 Python 库，它们扩展了 Python 的功能。例如，NumPy 用于科学计算，Django 用于 Web 开发。
- **PyPI 软件仓库**：Python Package Index（PyPI）是 Python 官方的软件包仓库，它包含了大量的第三方 Python 软件包。你可以使用 `pip` 命令从 PyPI 上下载安装软件包，例如 `pip install numpy`。

程序 / 软件包的路径问题

- **Python 解释器路径**：不同的 Python 环境可能有不同的解释器路径。在使用 Conda 创建的虚拟环境中，解释器通常位于虚拟环境的 `bin` 目录（在 Windows 上是 `Scripts` 目录）下。你可以通过 `which python`（在 Linux 或 macOS 上）或 `where python`（在 Windows 上）命令来查看当前使用的 Python 解释器的路径。
- **第三方软件包路径**：当你使用 `pip` 或 `conda` 安装软件包时，软件包会被安装到特定的目录中。在 Conda 环境中，软件包通常安装在虚拟环境的 `lib/pythonX.Y/site-packages` 目录下（其中 `X.Y` 是 Python 版本号）。了解这些路径有助于你调试和管理软件包。

综上所述，Conda 是一个强大的工具，用于管理 Python 环境和软件包；Conda-Forge 是 Conda 的一个重要软件包来源；Python 解释器执行 Python 代码，第三方软件包扩展了 Python 的功能，而 PyPI 是这些软件包的主要存储库；理解程序和软件包的路径则有助于你更好地管理和使用这些资源。

按照 教程 创建项目目录，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) 刘佳慧@HUI MINGW64 ~/repo/myproject
$ conda activate myproject
(myproject) 刘佳慧@HUI MINGW64 ~/repo/myproject
$ python main.py
Hello, conda!
(myproject) 刘佳慧@HUI MINGW64 ~/repo/myproject
$
```

```
(base) 刘佳慧@HUI MINGW64 ~
$ cd repo
(base) 刘佳慧@HUI MINGW64 ~/repo
$ pwd
/c/Users/刘佳慧/repo
(base) 刘佳慧@HUI MINGW64 ~/repo
$ conda env list
# conda environments:
#
base                  *  D:\biancheng\anaconda3
myenv                    D:\biancheng\anaconda3\envs\myenv
prj1                     D:\biancheng\anaconda3\envs\prj1
prj2                     D:\biancheng\anaconda3\envs\prj2

(base) 刘佳慧@HUI MINGW64 ~/repo
$ ls -l
total 8
drwxr-xr-x 1 刘佳慧 197121 0  3月 13 17:41 mywork/
drwxr-xr-x 1 刘佳慧 197121 0  3月  8 20:54 week01/
drwxr-xr-x 1 刘佳慧 197121 0  3月 13 18:15 week02/
done
#
# To activate this environment, use
#
#     $ conda activate myproject
#
# To deactivate an active environment, use
#
#     $ conda deactivate
```

environment.yml | main.py | 扩展: Ruff | 设置 | settings.json

C: > Users > 刘佳慧 > AppData > Roaming > Code > User > {} settings.json > ...

```jsonc
{
    "workbench.startupEditor": "none",
    "git.path": "D:/biancheng/Git/bin/git.exe",
    "[python]": {
        "editor.formatOnSave": true,
        "editor.codeActionsOnSave": {
            "source.fixAll": "explicit",
            "source.organizeImports": "explicit"
        },
        "editor.defaultFormatter": "charliermarsh.ruff",
    },
    "notebook.formatOnSave.enabled": true,
  "notebook.codeActionsOnSave": {
    "notebook.source.fixAll": "explicit",
    "notebook.source.organizeImports": "explicit"
  },
}
```

environment.yml × main.py 扩展: Ruff 设置 settings.json

environment.yml

```yaml
name: myproject
channels:
  - conda-forge
dependencies:
  - python=3.12
  - pandas
```

```
(myproject) 刘佳慧@HUI MINGW64 ~/repo/myproject
$ conda env update
D:\biancheng\anaconda3\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/pkgs/main
 - https://repo.anaconda.com/pkgs/r
 - https://repo.anaconda.com/pkgs/msys2
Platform: win-64
Collecting package metadata (repodata.json): -
```

安 装

1. Pandas 库未安装

若你还没安装 Pandas 库，Python 就没办法导入它。你可以使用以下命令来安装 Pandas：

- **使用 pip 安装**：在命令行中输入以下命令。

bash

```
pip install pandas
```

- **使用 conda 安装**：如果你使用的是 Anaconda 环境，可在命令行中输入以下命令。

bash

```
conda install pandas
```

```python
import pandas as pd


def main():
    """
    Answers the question:

    What percentage of U.S. residents live highly walkable neighborhoods?

    "15.26" is the threshold on the index for a highly walkable area.
    """
    csv_file = "./EPA_SmartLocationDatabase_V3_Jan_2021_Final.csv"
    highly_walkable = 15.26

    df = pd.read_csv(csv_file)

    total_population = df["TotPop"].sum()
    highly_walkable_pop = df[df["NatWalkInd"] >= highly_walkable]["TotPop"].sum()

    percentage = (highly_walkable_pop / total_population) * 100.0

    print(
        f"{percentage:.2f}% of U.S. residents live in highly" "walkable neighborhoods."
    )


if __name__ == "__main__":
    main()
```

python main.py