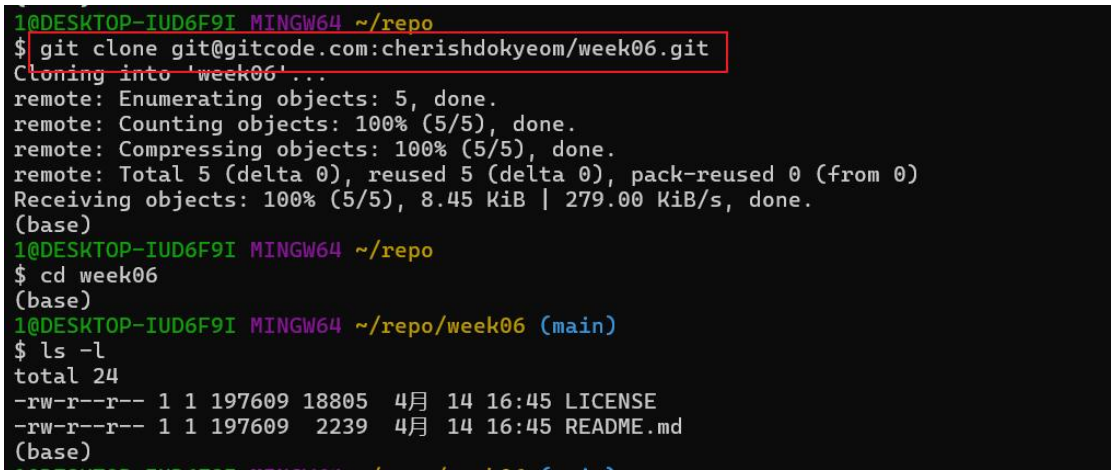
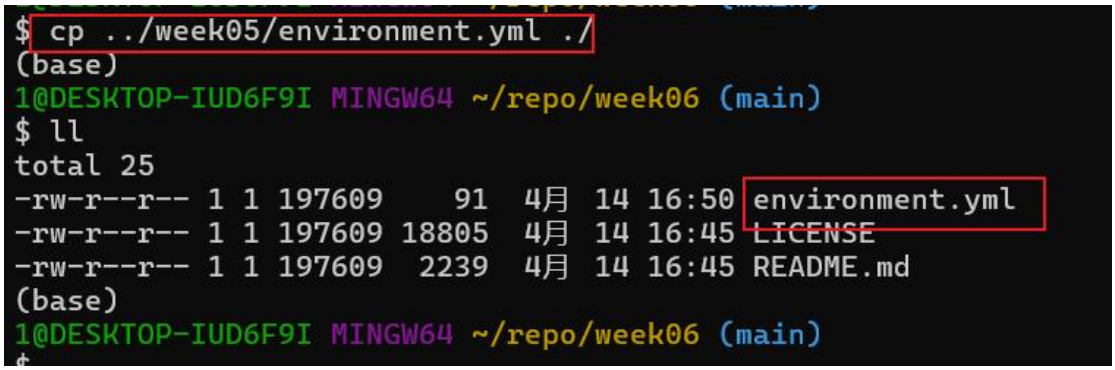
金融编程与计算-学习报告-week06

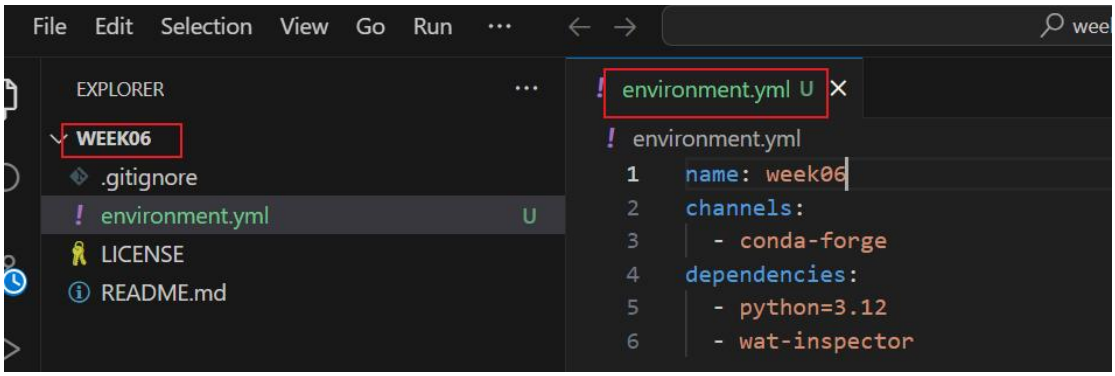
1.Fork 第 06 周打卡仓库至你的名下，然后将你名下的这个仓库 Clone 到你的本地计算机



2.用 VS Code 打开项目目录，新建一个 environment.yml 文件，指定安装 Python 3.12，然后运行 conda env create 命令创建 Conda 环境

将 week05 下的 environment.yml 复制到 week05，再进行相应修改。





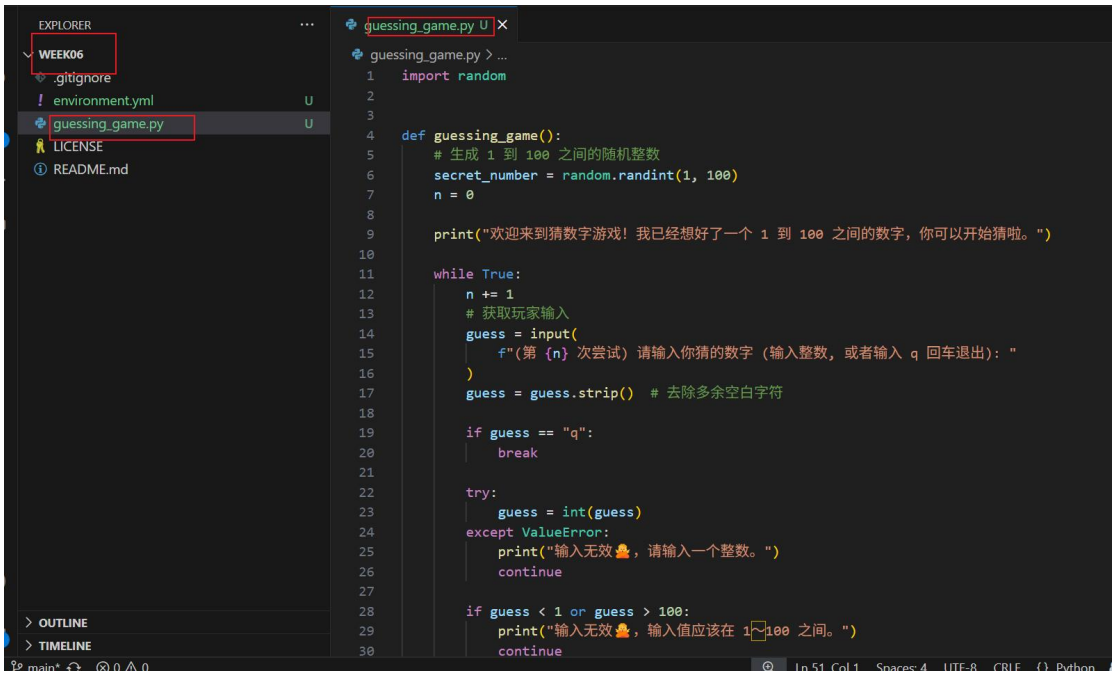
```
$ cat environment.yml
name: week06
channels:
  - conda-forge
dependencies:
  - python=3.12
  - wat-inspector(base)
1@DESKTOP-IUD6F9I MINGW64 ~/repo/week06 (main)
$ conda env create
Retrieving notices: done
Channels:
 - conda-forge
 - defaults
 - https://repo.anaconda.com/pkgs/main
 - https://repo.anaconda.com/pkgs/r
 - https://repo.anaconda.com/pkgs/msys2
Platform: win-64
Collecting package metadata (repodata.json): done
Solving environment: done

Downloading and Extracting Packages:

Preparing transaction: done
Verifying transaction: done
Executing transaction: done
```

```
(base)
1@DESKTOP-IUD6F9I MINGW64 ~/repo/week06 (main)
$ conda env list

# conda environments:
#
base                  * F:\biancheng\Anaconda
myproject               F:\biancheng\Anaconda\envs\myproject
prj11                   F:\biancheng\Anaconda\envs\prj11
prj2                    F:\biancheng\Anaconda\envs\prj2
week04                  F:\biancheng\Anaconda\envs\week04
week05                  F:\biancheng\Anaconda\envs\week05
week06                  F:\biancheng\Anaconda\envs\week06

(base)
```

删除环境：conda env remove -n prj11（环境名字）

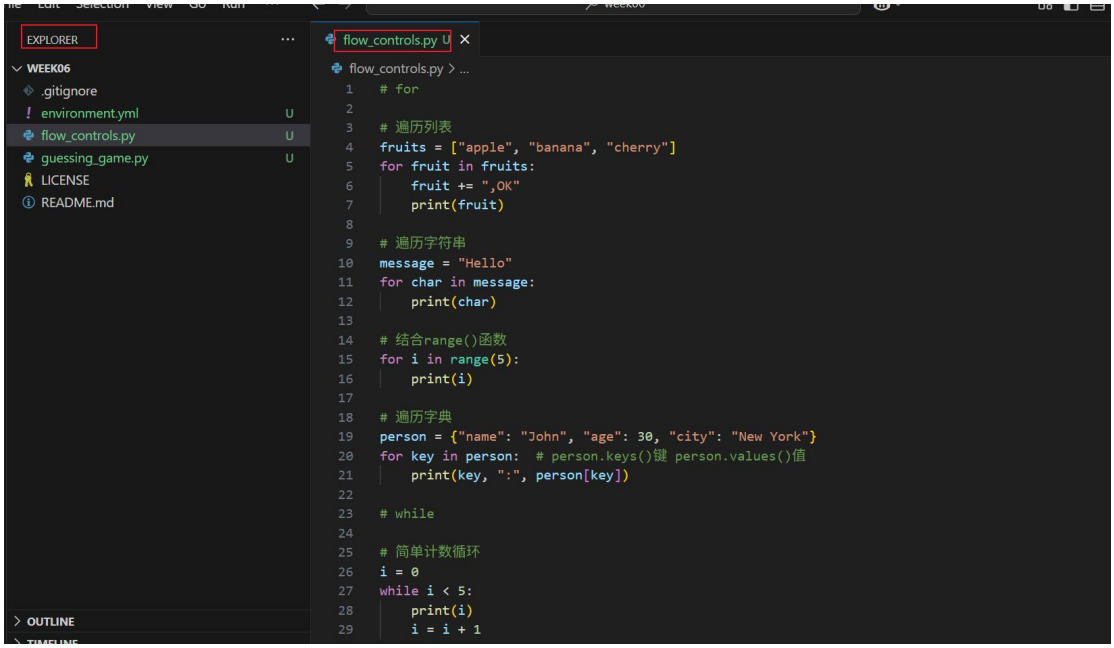
```
$ conda activate week06
(week06)
1@DESKTOP-IUD6F9I MINGW64 ~/repo/week06 (main)
$ conda list
# packages in environment at F:\biancheng\Anaconda\envs\week06:
#
# Name                    Version                   Build  Channel
bzip2                     1.0.8                h2466b09_7    conda-forge
ca-certificates           2025.1.31            h56e8100_0    conda-forge
libexpat                  2.7.0                he0c23c2_0    conda-forge
libffi                    3.4.6                h537db12_1    conda-forge
liblzma                   5.8.1                h2466b09_0    conda-forge
libsqlite                 3.49.1               h67fdade_2    conda-forge
libzlib                   1.3.1                h2466b09_2    conda-forge
openssl                   3.5.0                ha4e3fda_0    conda-forge
pip                       25.0.1             pyh8b19718_0    conda-forge
python                    3.12.10         h3f84c4b_0_cpython    conda-forge
setuptools                78.1.0             pyhff2d567_0    conda-forge
tk                        8.6.13               h5226925_1    conda-forge
tzdata                    2025b                h78e105d_0    conda-forge
ucrt                      10.0.22621.0         h57928b3_1    conda-forge
vc                        14.3                h2b53caa_26    conda-forge
vc14_runtime              14.42.34438          hfd919c2_26    conda-forge
wat-inspector             0.4.3              pyhff2d567_0    conda-forge
wheel                     0.45.1             pyhd8ed1ab_1    conda-forge
(week06)
1@DESKTOP-IUD6F9I MINGW64 ~/repo/week06 (main)
$
```

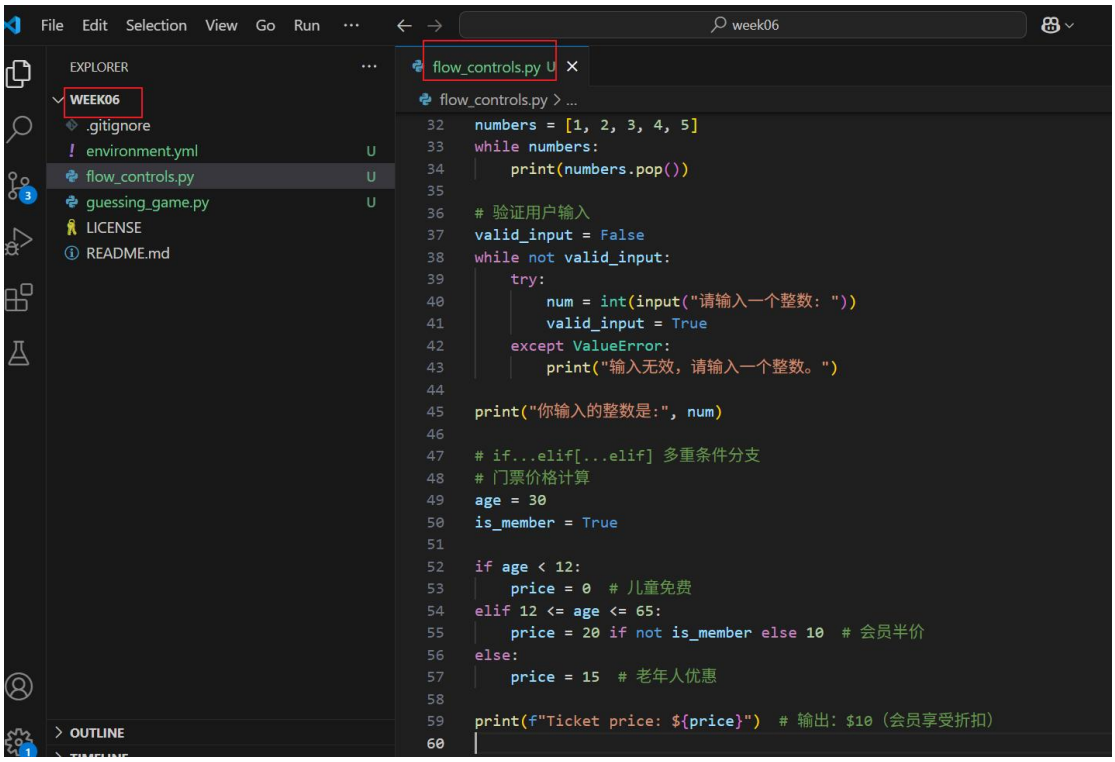
3.创建一个 guessing_game.py 文件，复制粘贴以下代码，运用 pdb 调试器理解其运行流程

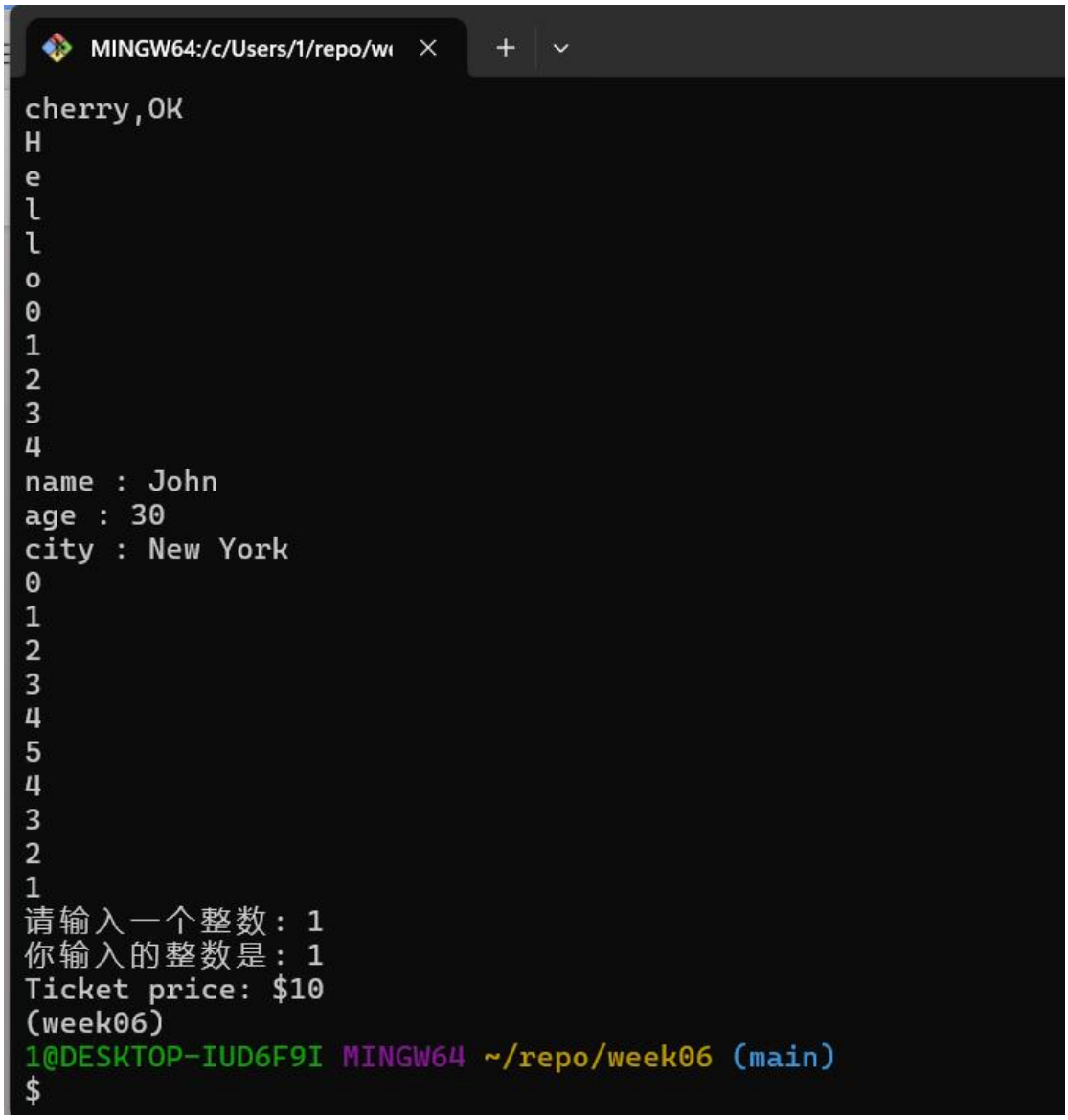


```
1@DESKTOP-IUD6F9I MINGW64 ~/repo/week06 (main)
$ python guessing_game.py
欢迎来到猜数字游戏！我已经想好了一个 1 到 100 之间的数字，你可以开始猜啦。
(第 1 次尝试) 请输入你猜的数字 (输入整数，或者输入 q 回车退出): 9
猜的数字太小了，再试试↗。
(第 2 次尝试) 请输入你猜的数字 (输入整数，或者输入 q 回车退出): 50
猜的数字太小了，再试试↗。
(第 3 次尝试) 请输入你猜的数字 (输入整数，或者输入 q 回车退出): 99
猜的数字太大了，再试试↘。
(第 4 次尝试) 请输入你猜的数字 (输入整数，或者输入 q 回车退出): 8
猜的数字太小了，再试试↗。
(第 5 次尝试) 请输入你猜的数字 (输入整数，或者输入 q 回车退出): 80
猜的数字太小了，再试试↗。
(第 6 次尝试) 请输入你猜的数字 (输入整数，或者输入 q 回车退出): 90
猜的数字太小了，再试试↗。
(第 7 次尝试) 请输入你猜的数字 (输入整数，或者输入 q 回车退出): 95
猜的数字太大了，再试试↘。
(第 8 次尝试) 请输入你猜的数字 (输入整数，或者输入 q 回车退出): 93
猜的数字太大了，再试试↘。
(第 9 次尝试) 请输入你猜的数字 (输入整数，或者输入 q 回车退出): 92
恭喜你🎉，猜对了！
游戏结束，再见👋。
(week06)
1@DESKTOP-IUD6F9I MINGW64 ~/repo/week06 (main)
```

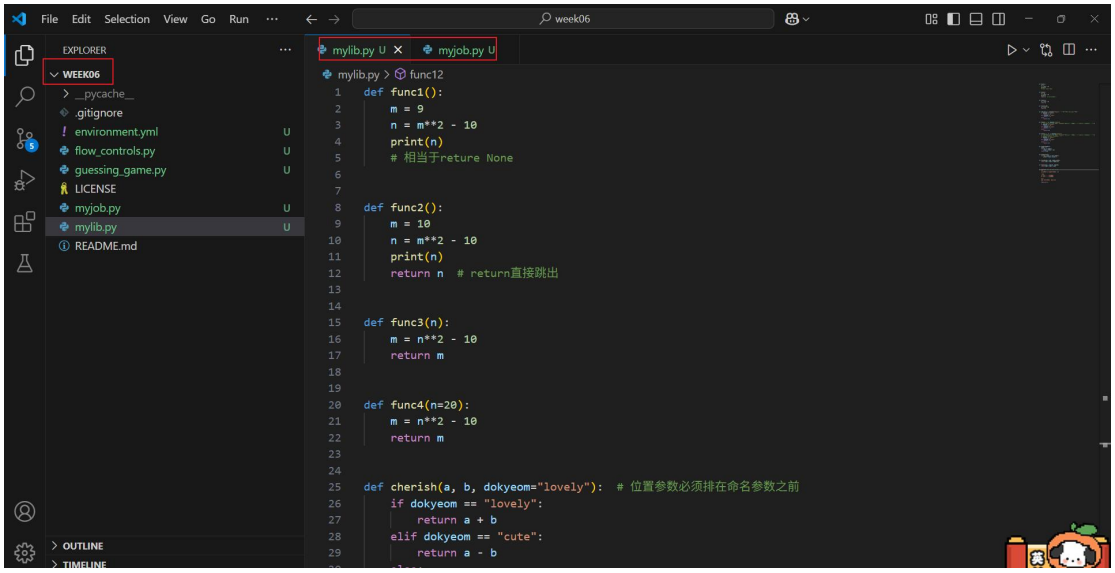
4.创建一个 flow_controls.py 文件，让豆包（或 DeepSeek 等任何大模型）生成例子，尝试运行，体会理解 Python 流程控制语句

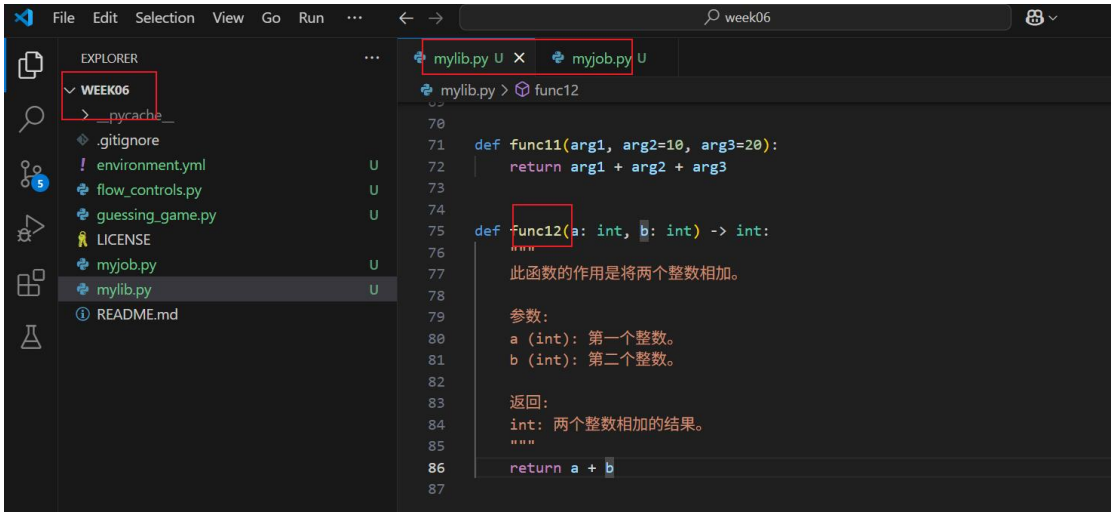



File Edit Selection View Go Run ···
week06
EXPLORER
WEEK06
.gitignore
environment.yml U
flow_controls.py U
guessing_game.py U
LICENSE
README.md
flow_controls.py U
flow_controls.py > ...
32 numbers = [1, 2, 3, 4, 5]
33 while numbers:
34 print(numbers.pop())
35
36 # 验证用户输入
37 valid_input = False
38 while not valid_input:
39 try:
40 num = int(input("请输入一个整数: "))
41 valid_input = True
42 except ValueError:
43 print("输入无效，请输入一个整数。")
44
45 print("你输入的整数是:", num)
46
47 # if...elif[...elif] 多重条件分支
48 # 门票价格计算
49 age = 30
50 is_member = True
51
52 if age < 12:
53 price = 0 # 儿童免费
54 elif 12 <= age <= 65:
55 price = 20 if not is_member else 10 # 会员半价
56 else:
57 price = 15 # 老年人优惠
58
59 print(f"Ticket price: ${price}") # 输出: $10（会员享受折扣）
60
OUTLINE

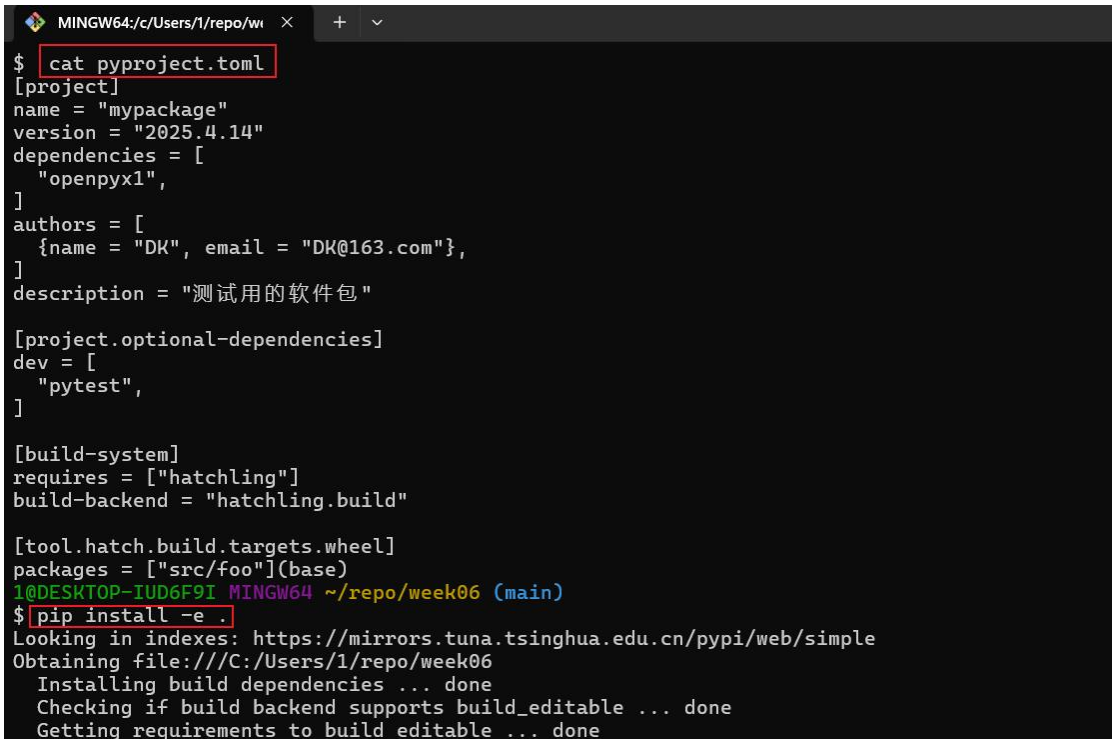


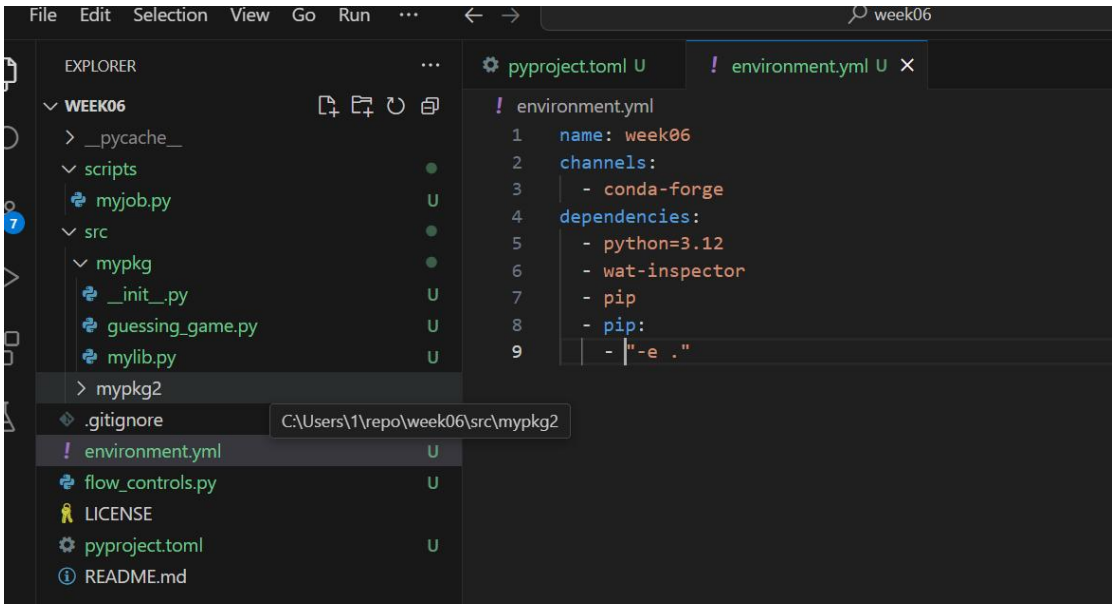
5.创建一个 mylib.py 模块（module），在里面定义以下函数，再创建一个 myjob.py 脚本（script），从 mylib.py 导入函数并尝试调用





6.把 mylib 模块转变为软件包（package）安装进当前的 Conda 环境来使用


MINGW64:/c/Users/1/repo/we
$ cat pyproject.toml
[project]
name = "mypackage"
version = "2025.4.14"
dependencies = [
"openpyx1",
]
authors = [
{name = "DK", email = "DK@163.com"},
]
description = "测试用的软件包"
[project.optional-dependencies]
dev = [
"pytest",
]
[build-system]
requires = ["hatchling"]
build-backend = "hatchling.build"
[tool.hatch.build.targets.wheel]
packages = ["src/foo"](base)
1@DESKTOP-IUD6F9I MINGW64 ~/repo/week06 (main)
$ pip install -e .
Looking in indexes: https://mirrors.tuna.tsinghua.edu.cn/pypi/web/simple
Obtaining file:///C:/Users/1/repo/week06
Installing build dependencies ... done
Checking if build backend supports build_editable ... done
Getting requirements to build editable ... done


File Edit Selection View Go Run
week06
EXPLORER
WEEK06
__pycache__
scripts
myjob.py U
src
mypkg
__init__.py U
guessing_game.py U
mylib.py U
mypkg2
.gitignore
environment.yml U
flow_controls.py U
LICENSE
pyproject.toml U
README.md
C:\Users\1\repo\week06\src\mypkg2
pyproject.toml U
environment.yml U
environment.yml
1 name: week06
2 channels:
3 - conda-forge
4 dependencies:
5 - python=3.12
6 - wat-inspector
7 - pip
8 - pip:
9 - "-e ."