

第六周学习报告

首先新建 `environment.yml` 文件，然后创建 `conda` 环境。

```
Last login: Sun Apr 13 15:32:46 on ttys000
(base) donghengxu@donghengxudeMacBook-Air ~ % cd repo
(base) donghengxu@donghengxudeMacBook-Air ~ % git clone git@github.com:hengxudong/week06.git
Cloning into 'week06'...
Enter passphrase for key '/Users/donghengxu/.ssh/id_ed25519':
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)
Receiving objects: 100% (5/5), 8.45 KiB | 2.82 MiB/s, done.
(base) donghengxu@donghengxudeMacBook-Air repo % ls
myproject  prj3      week01    week03    week05
mywork     script1.py week02    week04    week06
(base) donghengxu@donghengxudeMacBook-Air repo % cd week06
(base) donghengxu@donghengxudeMacBook-Air week06 % ls
LICENSE  README.md
(base) donghengxu@donghengxudeMacBook-Air week06 % cp ../week05/environment.yml ./
(base) donghengxu@donghengxudeMacBook-Air week06 % ls
LICENSE  README.md  environment.yml
(base) donghengxu@donghengxudeMacBook-Air week06 % cat environment.yml
name: week06
channels:
  - conda-forge
dependencies:
  - python=3.12
  - wat-inspector
Retrieving notices: done
Channels:
  - conda-forge
  - defaults
  - https://repo.anaconda.com/pkgs/main
  - https://repo.anaconda.com/pkgs/r
Platform: osx-arm64
Collecting package metadata (repodata.json): done
Solving environment: done

Downloading and Extracting Packages:

Preparing transaction: done
Verifying transaction: done
Executing transaction: done
#
# To activate this environment, use
#
#     $ conda activate week06
#
# To deactivate an active environment, use
#
#     $ conda deactivate
#

(base) donghengxu@donghengxudeMacBook-Air week06 % conda env list

# conda environments:
#
base                  * /opt/anaconda3
myenv                 /opt/anaconda3/envs/myenv
myproject             /opt/anaconda3/envs/myproject
prj1                  /opt/anaconda3/envs/prj1
prj2                  /opt/anaconda3/envs/prj2
week04                /opt/anaconda3/envs/week04
week05                /opt/anaconda3/envs/week05
week06                /opt/anaconda3/envs/week06
```

运用 `pdb` 调试器理解猜数字游戏代码运行流程

1、`random.randint(1, 100)`: 随机生成 1-100 之间的数字

2、`while` 条件循环，`break` 可跳出循环

```
[(Pdb)]
(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): q
> /Users/donghengxu/repo/week06/guessing_game.py(17)guessing_game()
-> guess = guess.strip() # 去除多余空白字符
[(Pdb) p guess
'q'
[(Pdb) n
> /Users/donghengxu/repo/week06/guessing_game.py(19)guessing_game()
-> if guess == "q":
[(Pdb)
> /Users/donghengxu/repo/week06/guessing_game.py(20)guessing_game()
-> break
[(Pdb)
> /Users/donghengxu/repo/week06/guessing_game.py(46)guessing_game()
-> print("游戏结束, 再见 🍀。")
^ _ _ _ _
```

3、`continue` 跳至下一循环，该代码即从 `while` 循环重新开始

```
-> if guess < secret_number:
[(Pdb) p secret_number
21
[(Pdb) n
> /Users/donghengxu/repo/week06/guessing_game.py(40)guessing_game()
-> if guess > secret_number:
[(Pdb)
> /Users/donghengxu/repo/week06/guessing_game.py(41)guessing_game()
-> print("猜的数字太大了, 再试试 🙄 ")
[(Pdb)
猜的数字太大了, 再试试 🙄
> /Users/donghengxu/repo/week06/guessing_game.py(42)guessing_game()
-> continue
[(Pdb)
> /Users/donghengxu/repo/week06/guessing_game.py(11)guessing_game()
-> while True:
(Pdb) █
```

4、`if` 条件分支

5、`try...except...` 处理异常

```

[(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): 34a
> /Users/donghengxu/repo/week06/guessing_game.py(17)guessing_game()
-> guess = guess.strip() # 去除多余空白字符
[(Pdb)
> /Users/donghengxu/repo/week06/guessing_game.py(19)guessing_game()
-> if guess == "q":
[(Pdb)
> /Users/donghengxu/repo/week06/guessing_game.py(22)guessing_game()
-> try:
[(Pdb)
> /Users/donghengxu/repo/week06/guessing_game.py(23)guessing_game()
-> guess = int(guess)
[(Pdb)
ValueError: invalid literal for int() with base 10: '34a'
> /Users/donghengxu/repo/week06/guessing_game.py(23)guessing_game()
-> guess = int(guess)

```

6、raise 主动抛出异常

语句例子运行结果:

```

(week06) donghengxu@donghengxudeMacBook-Air week06 % python flow_controls.py
apple,ok
banana,ok
cherry,ok
H
e
1
1
o
0
1
2
3
4
name
age
grade
name: Alice
age: 20
grade: A
0
1
2
3
4
1 到 10 的整数之和为 55
当前处理的数字是: 1
当前处理的数字是: 2
当前处理的数字是: 3
当前处理的数字是: 4
当前处理的数字是: 5
请输入内容 (输入 quit 退出): 1
你输入的是: 1
请输入内容 (输入 quit 退出): quit
(week06) donghengxu@donghengxudeMacBook-Air week06 %

```

所编写的函数代码运行结果

```

(week06) donghengxu@donghengxudeMacBook-Air week06 % python myjob.py
9
23
0.0710678118654755
None
func1() takes 0 positional arguments but 1 was given
1.3666002653407556
1.3666002653407556
-0.2917960675006306
-0.2917960675006306
func3() missing 1 required positional argument: 'x'
func3() got an unexpected keyword argument 'y'
-0.07179676972449123
0.0
0.0710678118654755
7
10
13
13
30
35
name: 张三
age: 25
city: 北京
第一个参数是: 10
第二个参数是: 20
命名参数 (选项) 的值是: new_value
第一个参数是: 30
第二个参数是: 40
命名参数 (选项) 的值是: another_value
第一个参数是: 7
第二个参数是: 8
命名参数 (选项) 的值是: 9
(week06) donghengxu@donghengxudeMacBook-Air week06 %

```

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

import mylib 失败，这是由于 mylib 并没有打包成 软件包 (package) 安装

```
(week06) donghengxu@donghengxudeMacBook-Air week06 % python myjob.py
python: can't open file '/Users/donghengxu/repo/week06/myjob.py': [Errno 2] No such file or directory
(week06) donghengxu@donghengxudeMacBook-Air week06 %
```

```
pyproject.toml
[project]
name = "mypackage"
version = "2025.4.14"
dependencies = [
    "openpyxl",
]
authors = [
    {name = "hengxudong", email = "1513267392@qq.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/mypkg",
]
```

```
! environment.yml
1  name: week06
2  channels:
3    - conda-forge
4  dependencies:
5    - python=3.12
6    - wat-inspector
7    - pip
8    - pip:
9      - "--editable ."
```