

《金融编程与计算》第六周打卡

cp 复制环境文件 配置 conda 环境

```
$ cd repo
(base)
zhangyunfei@LAPTOP-NU6BCCKG MINGW64 ~/repo
$ git clone git@gitcode.com:zhangyunfei-2001/week06.git
Cloning into 'week06'...
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)
zhangyunfei@LAPTOP-NU6BCCKG MINGW64 ~/repo
$ cd week06
(base)
zhangyunfei@LAPTOP-NU6BCCKG MINGW64 ~/repo/week06 (main)
$ cp ../week05/environment.yml ./
(base)
zhangyunfei@LAPTOP-NU6BCCKG MINGW64 ~/repo/week06 (main)
$ ll
total 25
-rw-r--r-- 1 zhangyunfei 197121  91  4月 14 14:02 environment.yml
-rw-r--r-- 1 zhangyunfei 197121 18805 4月 14 14:00 LICENSE
-rw-r--r-- 1 zhangyunfei 197121  2239 4月 14 14:00 README.md
(base)
zhangyunfei@LAPTOP-NU6BCCKG MINGW64 ~/repo/week06 (main)
$
```

```
zhangyunfei@LAPTOP-NU6BCCKG MINGW64 ~/repo/week06 (main)
$ cat environment.yml
name: week06
channels:
  - conda-forge
dependencies:
  - python=3.12
  - wat-inspector(base)
zhangyunfei@LAPTOP-NU6BCCKG MINGW64 ~/repo/week06 (main)
$ conda env create
D:\python\Lib\argparse.py:2006: FutureWarning: 'remote_definition' is deprecated
  env create --file=URL' instead.
  action(self, namespace, argument_values, option_string)
Retrieving notices: ...working... done
Channels:
  - conda-forge
  - 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: - |
```

行的流程，那么大家可以看到这个代码里面这个有这个

删除之前的示例环境 conda env remove -n

```

zhangyunfei@LAPTOP-NU6BCKG MINGW64 ~/repo/week06 (main)
$ conda env remove -n prj1

Remove all packages in environment D:\python\envs\prj1:

## Package Plan ##

environment location: D:\python\envs\prj1

6
The following packages will be REMOVED:

```

运行 week06conda 环境

```

zhangyunfei@LAPTOP-NU6BCKG MINGW64 ~/repo/week06 (main)
$ conda activate week06
(week06)
zhangyunfei@LAPTOP-NU6BCKG MINGW64 ~/repo/week06 (main)
$ |

```

使用 pdb 调试器调试程序，初次调试报错，经查原因为 python -m 之后没有输入 pdb 模块名称，导致语法错误，修改之后，运行正常

```

zhangyunfei@LAPTOP-NU6BCKG MINGW64 ~/repo/week06 (main)
$ python -m pdb guessing_game.py
> c:\users\zhangyunfei\repo\week06\guessing_game.py(1)<module>()
-> import random
(Pdb)

```

n 为运行下一步程序 s 为步进进入函数内部

```

-> guessing_game()
(Pdb) n
--Return--
> <string>(1)<module>()->None
(Pdb) n
The program finished and will be restarted
> c:\users\zhangyunfei\repo\week06\guessing_game.py(1)<module>()
-> import random
(Pdb) n
> c:\users\zhangyunfei\repo\week06\guessing_game.py(4)<module>()
-> def guessing_game():
(Pdb) n
> c:\users\zhangyunfei\repo\week06\guessing_game.py(49)<module>()
-> if __name__ == "__main__":
(Pdb) n
> c:\users\zhangyunfei\repo\week06\guessing_game.py(50)<module>()
-> guessing_game()
(Pdb) s
--Call--
> c:\users\zhangyunfei\repo\week06\guessing_game.py(4)guessing_game()
-> def guessing_game():
(Pdb)

```

```

--Call--
> c:\users\zhangyunfei\repo\week06\guessing_game.py(4)guessing_game()
-> def guessing_game():
(Pdb) l
1     import random
2
3
4  -> def guessing_game():
5       # 生成 1 到 100 之间的随机整数
6       secret_number = random.randint(1, 100)
7       n = 0
8
9       print("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
10
11      while True:
(Pdb)

```

```

c:\users\zhangyunfei\repo\week06\guessing_game.py(4)><module>()
-> if __name__ == "__main__":
(Pdb) n
> c:\users\zhangyunfei\repo\week06\guessing_game.py(50)<module>()
-> guessing_game()
(Pdb) s
--Call--
> c:\users\zhangyunfei\repo\week06\guessing_game.py(4)guessing_game()
-> def guessing_game():
(Pdb) l
1     import random
2
3
4  -> def guessing_game():
5       # 生成 1 到 100 之间的随机整数
6       secret_number = random.randint(1, 100)
7       n = 0
8
9       print("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
10
11      while True:
(Pdb) n
> c:\users\zhangyunfei\repo\week06\guessing_game.py(6)guessing_game()
-> secret_number = random.randint(1, 100)
(Pdb) n
> c:\users\zhangyunfei\repo\week06\guessing_game.py(7)guessing_game()
-> n = 0
(Pdb) p secret_number
69
(Pdb)

```

```

(Pdb) n
> c:\users\zhangyunfei\repo\week06\guessing_game.py(28)guessing
-> if guess < 1 or guess > 100:
(Pdb) n
> c:\users\zhangyunfei\repo\week06\guessing_game.py(32)guessing
-> if guess == secret_number:
(Pdb) n
> c:\users\zhangyunfei\repo\week06\guessing_game.py(33)guessing
-> print("恭喜你 🎉, 猜对了! ")
(Pdb)

```

python if 、if else 语句的应用

```
flow_controls2.py > ...
1 num = 10
2 if num > 0:
3     print("这是一个正数")
4 else:
5     print("这不是一个正数")
6
7 score = 99
8 if score >= 90:
9     print("成绩等级:A")
10 elif score >= 80:
11     print("成绩等级:B")
12 elif score >= 70:
13     print("成绩等级:C")
14 elif score >= 60:
15     print("成绩等级:D")
16 else:
17     print("成绩等级:F")
18
19 age = 22
20 has_license = True
21 if age >= 18:
22     print("你已成年")
23     if has_license:
24         print("你可以合法开车")
25     else:
26         print("你还不能开车, 需要先考")
27 else:
28     print("你还未成年, 不能开车")
29
30
31 year = 2024
32 if (year % 4 == 0 and year % 100 != 0) or year % 400 == 0:
33     print(f"{year} 年是闰年")
34 else:
```

```
MINGW64/c/Users/zhangyur x + v
(base)
zhangyunfei@LAPTOP-NU6BCCKG MINGW64 ~
$ cd repo/week06
(base)
zhangyunfei@LAPTOP-NU6BCCKG MINGW64 ~/repo/week06 (main)
$ conda activate week06
(week06)
zhangyunfei@LAPTOP-NU6BCCKG MINGW64 ~/repo/week06 (main)
$ python flow_controls2.py
这是一个正数
成绩等级:A
你已成年
你可以合法开车
2024 年是闰年
(week06)
zhangyunfei@LAPTOP-NU6BCCKG MINGW64 ~/repo/week06 (main)
$ |
```

python for 循环的应用

```
flow_controls.py > ...
1 fruits = ["apple", "banana", "cherry"]
2 for fruit in fruits:
3     print(fruit)
```

```
MINGW64/c/Users/zhangyur x + v
(base)
zhangyunfei@LAPTOP-NU6BCCKG MINGW64 ~
$ cd repo/week06
(base)
zhangyunfei@LAPTOP-NU6BCCKG MINGW64 ~/repo/week06 (main)
$ conda activate week06
(week06)
zhangyunfei@LAPTOP-NU6BCCKG MINGW64 ~/repo/week06 (main)
$ python flow_controls.py
apple
banana
cherry
(week06)
```

```
flow_controls.py > ...
1  fruits = ["apple", "banana", "c
2  for fruit in fruits:
3      fruit = fruit + ",okk"
4      print(fruit)
5

(base)
zhangyunfei@LAPTOP-NU6BCCKG MINGW64 ~
$ cd repo/week06
(base)
zhangyunfei@LAPTOP-NU6BCCKG MINGW64 ~/repo/week06 (m
$ conda activate week06
(week06)
zhangyunfei@LAPTOP-NU6BCCKG MINGW64 ~/repo/week06 (m
$ python flow_controls.py
apple
banana
cherry
(week06)
zhangyunfei@LAPTOP-NU6BCCKG MINGW64 ~/repo/week06 (m
$ python flow_controls.py
apple,okk
banana,okk
cherry,okk
(week06)
zhangyunfei@LAPTOP-NU6BCCKG MINGW64 ~/repo/week06 (m
$
```

while 循环的应用

```
flow_controls1.py > ...
1  count = 0
2  while count < 5:
3      print(count)
4      count = count + 1
5
6
7  sum_num = 0
8  i = 1
9  while i <= 10:
10     sum_num = sum_num + i
11     i = i + 1
12     print("1 到 10 的整数之和为", sum_num)
13
14  my_list = [1, 2, 3, 4, 5]
15  index = 0
16  while index < len(my_list):
17     print(my_list[index])
18     index = index + 1
19
20  number = 0
21  while number <= 10:
22     try:
23         number = int(input("请输入一个大于 10 的数字: "))
24     except ValueError:
25         print("输入无效, 请输入一个整数。")
26
27  print("你输入的有效数字是:", number)
28

MINGW64:/c/Users/zhangyur x + v
3
4
5
请输入一个大于 10 的数字: 11
你输入的有效数字是: 11
(week06)
zhangyunfei@LAPTOP-NU6BCCKG MINGW64 ~/repo/we
$ python flow_controls1.py
0
1
2
3
4
5
1 到 10 的整数之和为 55
1
2
3
4
5
请输入一个大于 10 的数字: 9
请输入一个大于 10 的数字: 7
请输入一个大于 10 的数字: 0.1
输入无效, 请输入一个整数。
请输入一个大于 10 的数字: h
输入无效, 请输入一个整数。
请输入一个大于 10 的数字: 99
你输入的有效数字是: 99
(week06)
zhangyunfei@LAPTOP-NU6BCCKG MINGW64 ~/repo/we
$
```

在 mylib.py 定义函数，并在 myjob.py 调用函数

```
def func1():
    x = 100
    y = x**0.5 - 1
    print(y)

def func2():
    x = 10000
    y = x**0.5 - 1
    print(y)
    return y

def func3(x):
    y = x**0.5 - 2
    return y

def func4(x=100):
    y = x**0.5 - 2
    return y

# 定义一个函数，包含位置形参和命名形参
def calculate_total(price, quantity, discount=0):
    return price * quantity * (1 - discount)

def func6(price, /, quantity, discount=0): ##/左边只能按位置传实参
    return price * quantity * (1 - discount)

def func7(price, *, quantity, discount=0): ##*右边只能按位置传实参
    return price * quantity * (1 - discount)

def sum_numbers(*numbers):
    total = 0
    for num in numbers:
        total = total + num
    return total
```

```
import mylib # noqa: F401

y = mylib.func1()
try:
    y = mylib.func1(0)
except TypeError as e:
    print(e)

y = mylib.func2()
print(y)

y = mylib.func3(100) ##位置实参
print(y)

y = mylib.func3(x=100) ##命名实参
print(y)

try:
    y = mylib.func3()
except TypeError as e:
    print(e) ##输出报错类型

y = mylib.func4()
print(y)
y = mylib.func4(x=49)
print(y)

total = mylib.calculate_total(10, quantity=2, discount=0.1)
print(total) # 输出 18.0

print(mylib.func6(10, 2, discount=0.1))

print(mylib.func7(10, quantity=2, discount=0.1))

result = mylib.sum_numbers(1, 2, 3, 4, 5)
print(result)

mylib.user_info(name="Alice", age=25, city="New York")

# 定义一个元组
```

```
$ python myjob.py
name: Alice
age: 25
city: New York
9.0
func1() takes 0 positional arguments but 1 was given
99.0
99.0
8.0
8.0
func3() missing 1 required positional argument: 'x'
8.0
5.0
18.0
18.0
18.0
15
name: Alice
age: 25
city: New York
13
27
23
(week06)
```

成功使用安装包安装 mypackage

```

Downloading https://mirrors.tuna.tsinghua.edu.cn/pypi/web/packages/c0/da/977ded879c29cbd04de313843e76868e6e
Collecting et-xmlfile (from openpyxl->mypackage==0.1.1->r C:\Users\zhangyunfei\repo\week06\condaenv.vwwpbl8z
Downloading https://mirrors.tuna.tsinghua.edu.cn/pypi/web/packages/c1/8b/5fe2cc11fee489817272089c4203e679c6
Building wheels for collected packages: mypackage
Building editable for mypackage (pyproject.toml): started
Building editable for mypackage (pyproject.toml): finished with status 'done'
Created wheel for mypackage: filename=mypackage-0.1.1-py2.py3-none-any.whl size=7220 sha256=cbc146a88baee7b
Stored in directory: C:\Users\zhangyunfei\AppData\Local\Temp\pip-ephem-wheel-cache-uzhsguor\wheels\1b\80\26
Successfully built mypackage
Installing collected packages: et-xmlfile, openpyxl, mypackage
Successfully installed et-xmlfile-2.0.0 mypackage-0.1.1 openpyxl-3.1.5

done
#
# To activate this environment, use
#
# $ conda activate week06
#
# To deactivate an active environment, use
#
# $ conda deactivate

(base)
zhangyunfei@LAPTOP-NU6BCKG MINGW64 ~/repo/week06 (main)
$ |

```

用PDB调试器运行有数子游戏代码。最后，单击理解编程中的暴 尚缺空 字体库

```

#
# Name Version Build Channel
bzip2 1.0.8 h2466b09_7 conda-forge
ca-certificates 2025.1.31 h56e8100_0 conda-forge
et-xmlfile 2.0.0 pypi_0 pypi
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
mypackage 0.1.1 pypi_0 pypi
openpyxl 3.1.5 pypi_0 pypi
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)

```