

Str

```
(base) DELL@DESKTOP-8NOG904 MINGW64 ~/repo
$ git clone git@github.com:zs_amber/week05.git
Cloning into 'week05'...
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), 8.44 KiB | 4.22 MiB/s, done.

(base) DELL@DESKTOP-8NOG904 MINGW64 ~/repo
$ ls -l
total 21
drwxr-xr-x 1 DELL 197121 0 3月 24 22:27 myproject/
drwxr-xr-x 1 DELL 197121 0 3月 17 18:42 mywork/
drwxr-xr-x 1 DELL 197121 0 3月 24 21:02 prj1/
-rw-r--r-- 1 DELL 197121 11 3月 8 18:41 script1.py
drwxr-xr-x 1 DELL 197121 0 3月 17 17:54 week01/
drwxr-xr-x 1 DELL 197121 0 3月 17 18:57 week02/
drwxr-xr-x 1 DELL 197121 0 3月 24 22:50 week03/
drwxr-xr-x 1 DELL 197121 0 3月 31 19:24 week04/
drwxr-xr-x 1 DELL 197121 0 4月 7 17:59 week05/
```

```
done
#
# To activate this environment, use
#
# $ conda activate week05
#
# To deactivate an active environment, use
#
# $ conda deactivate
```

```
! environment.yml U  (base) DELL@DESKTOP-8NOG904 MINGW64 ~/repo/week05 (m
$ conda activate week05
(week05)
DELL@DESKTOP-8NOG904 MINGW64 ~/repo/week05 (main)
$ python use_of_str.py
File "C:\Users\DELL\repo\week05\use_of_str.py", li
    print a
    ^^^^^^^
SyntaxError: Missing parentheses in call to 'print'.
(week05)
DELL@DESKTOP-8NOG904 MINGW64 ~/repo/week05 (main)
$ python use_of_str.py
hello
(week05)
DELL@DESKTOP-8NOG904 MINGW64 ~/repo/week05 (main)
$ python use_of_str.py
2507844639920
(week05)
DELL@DESKTOP-8NOG904 MINGW64 ~/repo/week05 (main)
$ python use_of_str.py
2187806399664
2187806399664
(week05)
DELL@DESKTOP-8NOG904 MINGW64 ~/repo/week05 (main)
```

```
use_of_str.py > ...
1 a = [2, 5]
2 b = [2, 5]
3 x = id(a)
4 print(x)
5 y = id(b)
6 print(y)
7

SyntaxError: Missing parentheses in call to 'print'. D
(week05)
DELL@DESKTOP-8NOG904 MINGW64 ~/repo/week05 (main)
$ python use_of_str.py
hello
(week05)
DELL@DESKTOP-8NOG904 MINGW64 ~/repo/week05 (main)
$ python use_of_str.py
2507844639920
(week05)
DELL@DESKTOP-8NOG904 MINGW64 ~/repo/week05 (main)
$ python use_of_str.py
2187806399664
2187806399664
(week05)
DELL@DESKTOP-8NOG904 MINGW64 ~/repo/week05 (main)
$ python use_of_str.py
2055110203648
2055110201664
(week05)
```

```

use_of_str.py > ...
1 a = [2, 5]
2 b = [2, 5]
3 x = id(a)
4 print(x)
5 y = id(b)
6 print(y)
7 a[0] = 9
8 print(a)
9 print(b)
10
DELL@DESKTOP-8NOG904 MIN
$ python use_of_str.py
2507844639920
(week05)
DELL@DESKTOP-8NOG904 MIN
$ python use_of_str.py
2187806399664
2187806399664
(week05)
DELL@DESKTOP-8NOG904 MIN
$ python use_of_str.py
2055110203648
2055110201664
(week05)
DELL@DESKTOP-8NOG904 MIN
$ python use_of_str.py
2450380232960
2450380230976
[9, 5]
[2, 5]
(week05)

```

```

use_of_str.py > ...
1 a = [2, 5]
2 b = [2, 5]
3 x = id(a)
4 print(x)
5 y = id(b)
6 print(y)
7 a[0] = 9
8 print(a)
9 print(b)
10 print(id(a))
11 print(id(b))
12
DELL@DESKTOP-8NOG904 MI
$ python use_of_str.py
2055110203648
2055110201664
(week05)
DELL@DESKTOP-8NOG904 MI
$ python use_of_str.py
2450380232960
2450380230976
[9, 5]
[2, 5]
(week05)
DELL@DESKTOP-8NOG904 MI
$ python use_of_str.py
1760949049600
1760949047616
[9, 5]
[2, 5]
1760949049600
1760949047616
(week05)

```

```

12 print(type(a))
13
$ python use_of_str.py
2347638724864
2347638722880
[9, 5]
[2, 5]
2347638724864
2347638722880
<class 'list'>
(week05)

```

```

13 print(isinstance(a, str))
14
DELL@DESKTOP-8NOG904 MI
$ python use_of_str.py
1750176504064
1750176502080
[9, 5]
[2, 5]
1750176504064
1750176502080
<class 'list'>
False
(week05)

```

```

13 print("isinstance(a,str):", isinstance(a, str))
14
2252338043136
2252338041152
[9, 5]
[2, 5]
2252338043136
2252338041152
<class 'list'>
isinstance(a,str): False
(week05)

```

```

14 print("dir(a):", dir(a))
15
dir(a): ['__add__', '__class__', '__class_getitem__', '__contains__', '__delattr__',
['__eq__', '__format__', '__ge__', '__getattribute__', '__getitem__', '__getstate__',
['__imul__', '__init__', '__init_subclass__', '__iter__', '__le__', '__len__', '__lt__',
['__reduce__', '__reduce_ex__', '__repr__', '__reversed__', '__rmul__', '__setattr__',
['__trunc__', '__subclasshook__', 'append', 'clear', 'copy', 'count', 'extend', 'index', 'ins
'sort']
(week05)

```

```

17 assert isinstance(a, str)
18
Traceback (most recent call last):
  File "C:\Users\DELL\Scripts\python.exe", line 17, in <module>
    assert isinstance(a, str)
AssertionError
(week05)

```

```

17 assert isinstance(a, list)
18 print("goodbye")
19
goodbye
(week05)

```

```

17 try:
18     assert isinstance(a, str)
19 except AssertionError:
20     print("type error")
21 print("goodbye")
22
type error
goodbye
(week05)

```

```

19 except AssertionError:
20     breakpoint()
21     print("type error")
22 print("goodbye")
23
(Pdb) p a
[9, 5]
(Pdb)

```

```

26 print("字面值")
27 s = "iniversity"
28 print(s)
29 print(isinstance(s, str))
30 assert type(s) is str
31
$ python use_of_str.py
(week05)
DELL@DESKTOP-8NOG904 MINGW64
$ python use_of_str.py
aaa
(week05)
DELL@DESKTOP-8NOG904 MINGW64
$ python use_of_str.py
字面值
True
(week05)
DELL@DESKTOP-8NOG904 MINGW64
$ python use_of_str.py
字面值
iniversity
True
(week05)

```

```

32 print("f-string")
33 x = "Tom"
34 s = f"name:{x}"
35 print(s)
36
SyntaxError: invalid syntax
(week05)
DELL@DESKTOP-8NOG904 MINGW64
$ python use_of_str.py
字面值
iniversity
True
f-string
name:Tom

```

```

37 s = "a\tb"
38 print("Tab", s)
39
40 s = "aaa\nbbb"
41 print("NewLine", s)
42
1 """
2 a = [2, 5]
3 b = [2, 5]
4 x = id(a)
5 print(x)
6 y = id(b)
7 print(y)
8 a[0] = 9
9 print(a)
10 print(b)
11 print(id(a))
12 print(id(b))
13 print(type(a))
14 print("isinstance(a,str):", isinstance(a, str))
15 print("isinstance(a,list):", isinstance(a, list))
16 print("isinstance(a, (str, list))")
17 print("dir(a):", dir(a))
18 try:
19     assert isinstance(a, str)
20 except AssertionError:
21     breakpoint()
22     print("type error")
23 print("goodbye")
24 """
print("初始化")
s = str()
print(s)
s = str([5, 8, 2])
print(s)

```

Terminal Output:

```

name: Tom
Tab a b
(week05)

NewLine aaa
bbb
(week05)

[5, 8, 2]
(week05)
DELL@DESKT
$

```

三个引号做批量注释

```

DELL@DESKTOP-8NOG904 MINGW64 ~/repo/week05 (main)
$ python -m pdb use_of_str.py
> c:\users\dell\repo\week05\use_of_str.py(1)<module>()
-> """
(Pdb) p str(1.1+2.2)
'3.3000000000000003'

```

```

Traceback (most recent call last):
  File "C:\Users\DELL\repo\week05\use_of_str.py", line 49, in <module>
    assert str([5, 8, 2]) == "[5,8,2]"
    ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
AssertionError

```

遇见问题 1: 列表转换字符串会出现空格, 加上空格后解决问题。

```

4 s = ""
5 s = s * 20
6 print(s)
7

```

Terminal Output:

```

[5, 8, 2]
=====
(week05)
DELL@DESKTOP-8NOG904 MT

```

```

64 assert s[:3] == "[5, 8, 2]"
65 assert s[4] == " "
66
67 s = "hello"
68 u = s.upper()
69 print(u)
70

```

Terminal Output:

```

[5, 8, 2]
=====
HELLO
(week05)
DELL@DESKTOP-8NOG904
$

```

```

t = "name:{},age{}"
print(t)
t1 = t.format("Jack", 21)
print(t1)

```

Terminal Output:

```

hello
name:{},age{}
name:Jack,age21
(week05)
DELL@DESKTOP-8NOG904

```

Types

```
83 s = "book"
84 print(iter(s))
85
86 for c in s:
87     print(c)
88
```

True
f-string
name:Tom
Tab a b
NewLine aaa
bbb
初始化
[5, 8, 2]
=====
HELLO
hello
name:{},age{}
name:Jack,age:
ghiabc
<str_ascii_iterator
b
o
o
k
(week05)

```
1 from pathlib import Path
2
3 s = b"hello"
4 print(s)
5 print(s[0])
6
7 p = Path("/d/Anaconda/envs/week05/python")
8 breakpoint()
9
```

```
$ which python
/d/Anaconda/envs/week05/python
(week05)
DELL@DESKTOP-8NOG904 MINGW64 ~/repo/week05 (main)
$ python use_of_bytes.py
b'hello'
104
--Return--
> c:\users\dell\repo\week05\use_of_bytes.py(8)<module>()->None
-> breakpoint()
(Pdb) p p.exists()
False
(Pdb) import wat
(Pdb) wat / [
*** SyntaxError: '[' was never closed
(Pdb) wat / p
```

遇到问题 2：路径改完格式后仍然显示不存在，后发现需要退出再进行一次 pdb，已解决。

```
6
7 p = Path("D:\\Anaconda\\envs\\week05\\python.exe")
8 breakpoint()
9
```

```
WindowsPath('d/Anaconda/envs/week05/python')
(Pdb) p p.exists()
False
(Pdb)
```

```
p = Path("D:\\Anaconda\\envs\\week05\\python.exe")
s = p.read_bytes()
print(len(s))
breakpoint()
```

```
return
File "D:
if sel
bdb.BdbQui
(week05)
DELL@DESKT
$ python u
b'hello'
104
93184
```

```
p = Path("environment.yml")
s = p.read_bytes()
print(s[0])
breakpoint()
```

```
bdb.Bdb
(week05)
DELL@DE
$ pytho
b'hello
104
93184
110
--Return--
```



```

10 assert 5
11 assert 0
12

```

```

File "C:\Users\
assert 0
^
AssertionError
(week05)

```

Int

```

9 x = 5 / 3
10 print(x, type(x))
11

```

```

DELL@DESKTOP-8NOG904 MINGW64
$ python use_of_float.py
<class 'float'>
<class 'float'>
1.6666666666666667 <class 'float'>
(week05)

```

float

```

11 x = 5 / 3
12 print(x, type(x))
13
14 x = random.random()
15 print(x)

```

```

<class 'float'>
1.6666666666666667 <class 'float'>
0.7366629275130295
(week05)
DELL@DESKTOP-8NOG904 MINGW64 ~/repo/
#

```

```

18 nan = float("nan")

```

nan 为特殊 float 值，表示缺失

```

assert 0.0
^^^

```



```

pinf = float("inf")
print(3.14e2)
print(pinf > 1e200)

ninf = float("-inf")
print(ninf)

```

Pinf 正无穷 ninf 负无穷

```

use_of_bool.py > ...
1 t = True
2 f = False
3 print(t, f)
4
5 print(type(t))
6 print(isinstance(t, int))
7

```

```

-inf
(week05)
DELL@DESKTOP-8NOG904 MINGW64
$
(week05)
DELL@DESKTOP-8NOG904 MINGW64
$ python use_of_bool.py
True False
(week05)
DELL@DESKTOP-8NOG904 MINGW64
$ python use_of_bool.py
True False
<class 'bool'>
True
(week05)

```

Bool

整数的子类

```

1 l = [1, 5, "abc"]
2 print(l)
3
4 print(l[0])
5 print(l[-1][1])
6
7 a = [2, 5, 3]
8 b = [i*2 for i in a]
9 print(b)

```

```

$ python use_of_list.py
[1, 5, 'abc']
1
b
[4, 25, 9]
(week05)
DELL@DESKTOP-8NOG904
$

```

```

print(b)
3 b = [i**2 for i in a if i < 4]
1 print(b)
2

```

```

$ python use_of_list.py
[1, 5, 'abc']
1
b
[4, 25, 9]
[4, 9]
(week05)

```

```

use_of_dict.py > ...
1 d = {"a": 1, "bb": 5,
2   print(d)
3   print(type(d))
4
5   for a in d:
6       print(a)
7
8
9
(week05)
DELL@DESKTOP-8NOG904 MINGW64
$ python use_of_dict.py
{'a': 1, 'bb': 5, 'cat': 3}
(week05)
DELL@DESKTOP-8NOG904 MINGW64
$ python use_of_dict.py
{'a': 1, 'bb': 5, 'cat': 3}
<class 'dict'>
(week05)
DELL@DESKTOP-8NOG904 MINGW64
$ python use_of_dict.py
{'a': 1, 'bb': 5, 'cat': 3}
<class 'dict'>
a
bb
cat

```

Direct

```

7 d = {}
8 d["abc"] = 5
9 d[7] = 100
10 print(d)
11
(1, 'a', 3.14)
<class 'tuple'>
1
(week05)
DELL@DESKTOP-8NOG904 MINGW64
$ python use_of_tuple.py
(1, 'a', 3.14)
<class 'tuple'>
1
{'abc': 5, 7: 100}
(week05)

```

Tuple

不支持赋值 与列表的区别

```

5 q = [1, 2, 1, 2, 5, 1]
6 print(q)
7 s = set(q)
8 print(s)
9
DELL@DESKTOP-8NOG904 MINGW64
$ python use_of_set.py
{1, 4, 7}
<class 'set'>
[1, 2, 1, 2, 5, 1]
{1, 2, 5}
(week05)

```

Set

```

s = {5, 2, 2, 1, 1}
s1 = {3, 2}
print(s | s1)
print(s & s1)
print(s ^ s1)
<class 'set'>
[1, 2, 1, 2, 5, 1]
{1, 2, 5}
{1, 2, 3, 5}
{2}
{1, 3, 5}
(week05)

```

Path

```

use_of_path.py > ...
1 from pathlib import Path
2
3 p = Path(".")
4 print(p)
5 print(list(p.iterdir()))
$ python use_of_path.py
[WindowsPath('.git'), WindowsPath('.gitignore'), WindowsPath('environment.yml'),
ADME.md'), WindowsPath('use_of_bool.py'), WindowsPath('use_of_bytes.py'), Windows
e_of_float.py'), WindowsPath('use_of_int.py'), WindowsPath('use_of_list.py'), Win
('use_of_set.py'), WindowsPath('use_of_str.py'), WindowsPath('use_of_tuple.py')]
(week05)

```

```

use_of_datetime.py
1 from datetime import date, datetime
2
3 print(date.today())
4
(week05)
DELL@DESKTOP-8NOG904 MINGW64 ~/
$ python use_of_datetime.py
2025-04-08
(week05)
DELL@DESKTOP-8NOG904 MINGW64 ~/

```

```
2
3 t1 = date.today()
4 t2 = date(2025, 11, 11)
5 td = t2 - t1
6 print(td)
7 print(type(td))
8
```

(week05)
DELL@DESKTOP-8NOG904 MINGW64
\$ python use_of_datetime.py
217 days, 0:00:00
<class 'datetime.timedelta'>
(week05)
DELL@DESKTOP-8NOG904 MINGW64

```
s1 = "2024-3-12"
s2 = "2023-7-6"
d1 = datetime.strptime(s1, "%Y-%m-%d")
d2 = datetime.strptime(s1, "%Y-%m-%d")
print(d1)
print(d2)
```

217 days, 0:00:00
<class 'datetime.timedelta'>
(week05)
DELL@DESKTOP-8NOG904 MINGW64 ~/.
\$ python use_of_datetime.py
217 days, 0:00:00
<class 'datetime.timedelta'>
217
(week05)
DELL@DESKTOP-8NOG904 MINGW64 ~/.
\$ python use_of_datetime.py
217 days, 0:00:00
<class 'datetime.timedelta'>
217
2024-03-12 00:00:00
2024-03-12 00:00:00
(week05)