

Python 语句

语句

Python语言常用的有:

赋值语句、if语句和for语句

语句通常是一行一条语句。如一行中有多条语句，则用分号（；）分开，如语句太长要跨行时，可以用续行符（\）跨行表示一个语句。

赋值语句

- 基本形式是“变量=值”的形式
- 例： 基本赋值语句

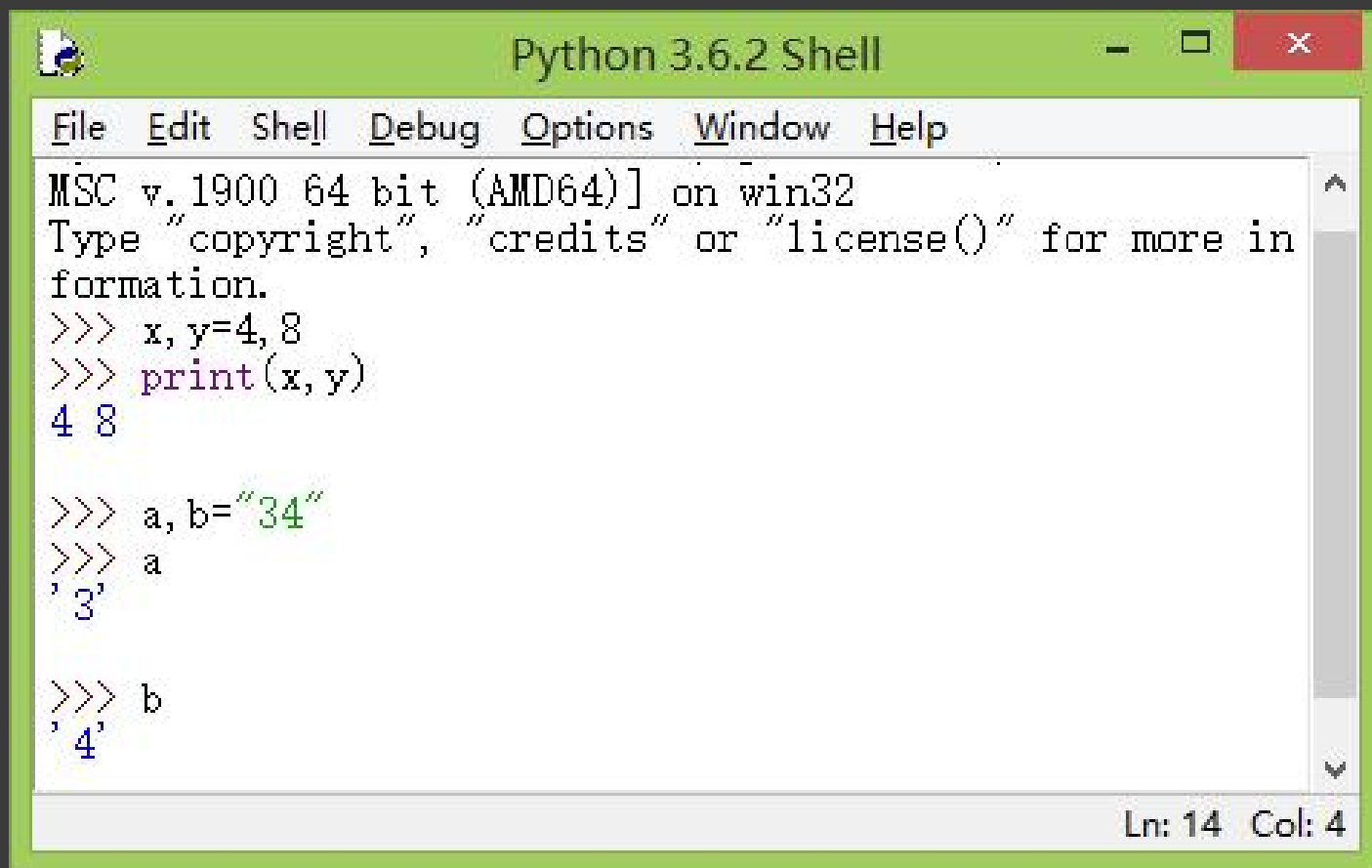
A screenshot of a Python IDE window titled "2-1.py - E:/sr/教学/视频/2-1.py...". The window has a menu bar with "File", "Edit", "Format", "Run", "Options", "Window", and "Help". The main text area contains the following Python code:

```
x=1
y=2
k=x+y
print(k)
```

The status bar at the bottom right indicates "Ln: 5 Col: 0".

```
2-1.py - E:/sr/教学/视频/2-1.py...
File Edit Format Run Options Window Help
x=1
y=2
k=x+y
print(k)
Ln: 5 Col: 0
```

◎ 序列赋值：（左侧变量个数和值的数量相等）



```
Python 3.6.2 Shell
File Edit Shell Debug Options Window Help
MSC v.1900 64 bit (AMD64) on win32
Type "copyright", "credits" or "license()" for more in
formation.
>>> x,y=4,8
>>> print(x,y)
4 8

>>> a,b="34"
>>> a
'3'

>>> b
'4'

Ln: 14 Col: 4
```

例： 交换a,b值

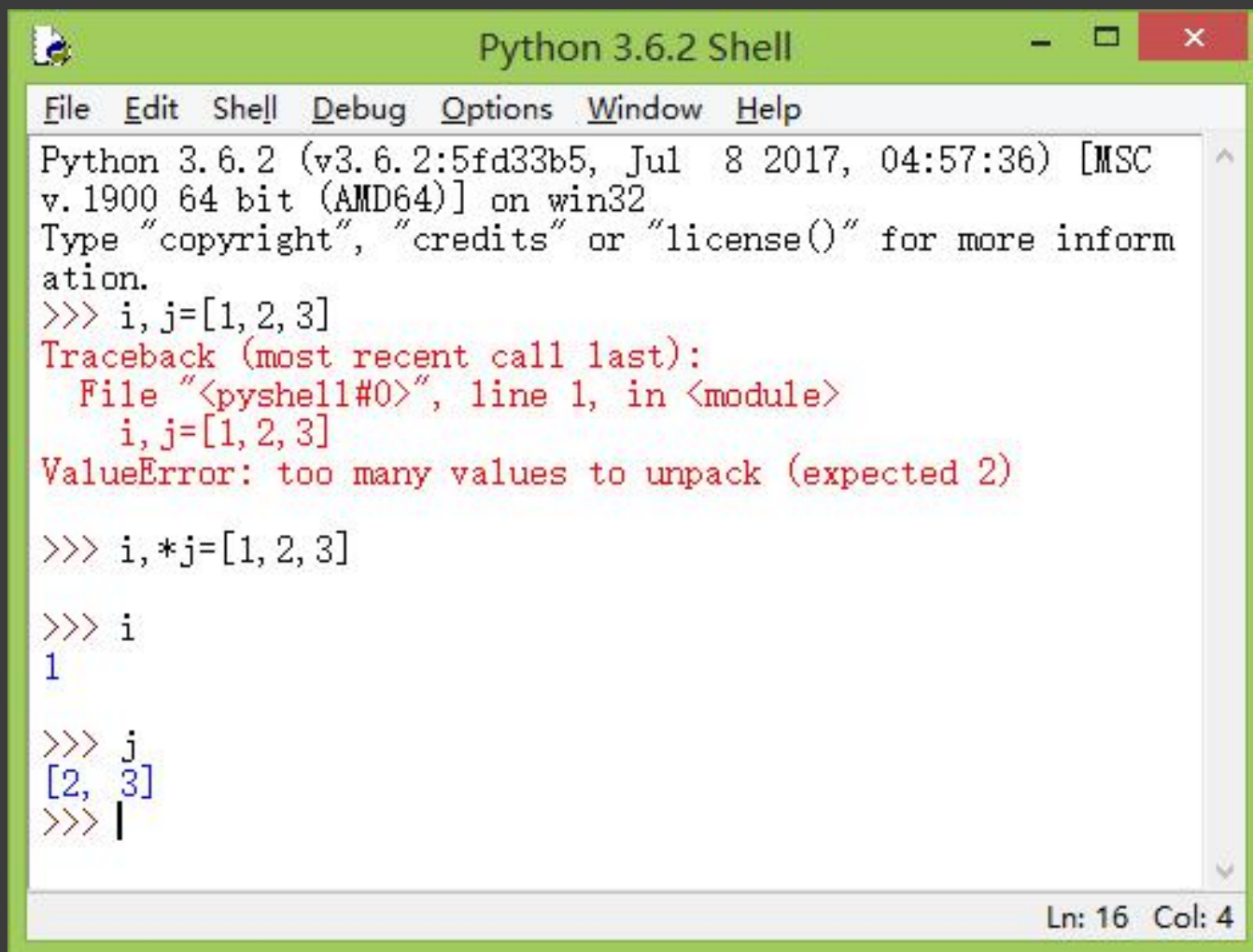


The image shows a screenshot of a Python IDE window titled "2-2.py - E:/sr/教学/视频/2-2.py (3.6.2)". The window has a menu bar with "File", "Edit", "Format", "Run", "Options", "Window", and "Help". The code editor contains the following Python code:

```
a=int(input())
b=int(input())
print(a, b)
a, b=b, a    #a和b交换
print(a, b)
```

The code uses a tuple unpacking method to swap the values of variables `a` and `b`. A red comment "#a和b交换" is placed next to the assignment line. The status bar at the bottom right indicates "Ln: 6 Col: 0".

序列赋值：（左侧变量个数和值的数量不等）



```
Python 3.6.2 Shell
File Edit Shell Debug Options Window Help
Python 3.6.2 (v3.6.2:5fd33b5, Jul 8 2017, 04:57:36) [MSC
v.1900 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more inform
ation.
>>> i,j=[1,2,3]
Traceback (most recent call last):
  File "<pyshell#0>", line 1, in <module>
    i,j=[1,2,3]
ValueError: too many values to unpack (expected 2)

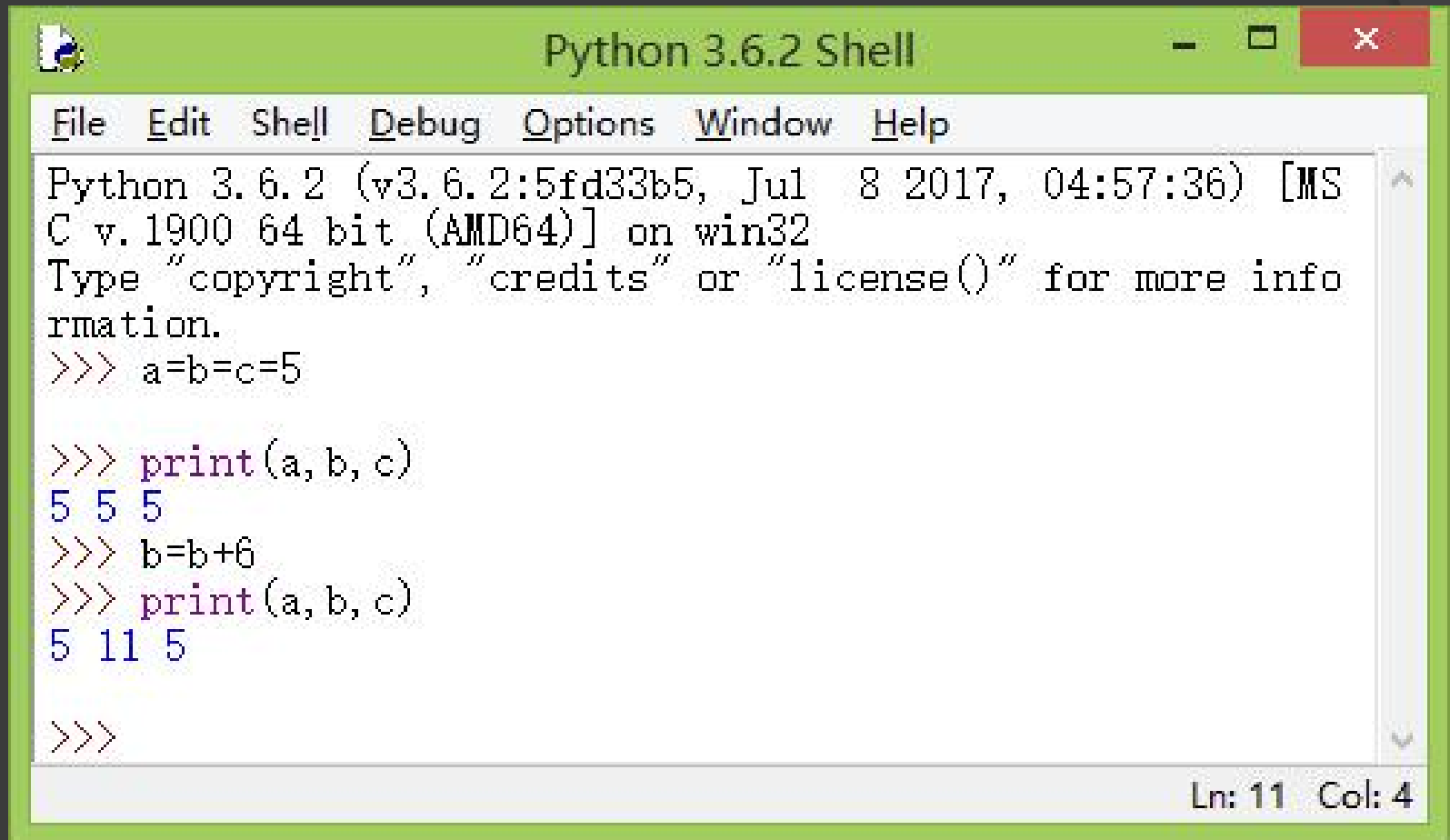
>>> i,*j=[1,2,3]

>>> i
1

>>> j
[2, 3]
>>> |
```

Ln: 16 Col: 4

多变量赋值



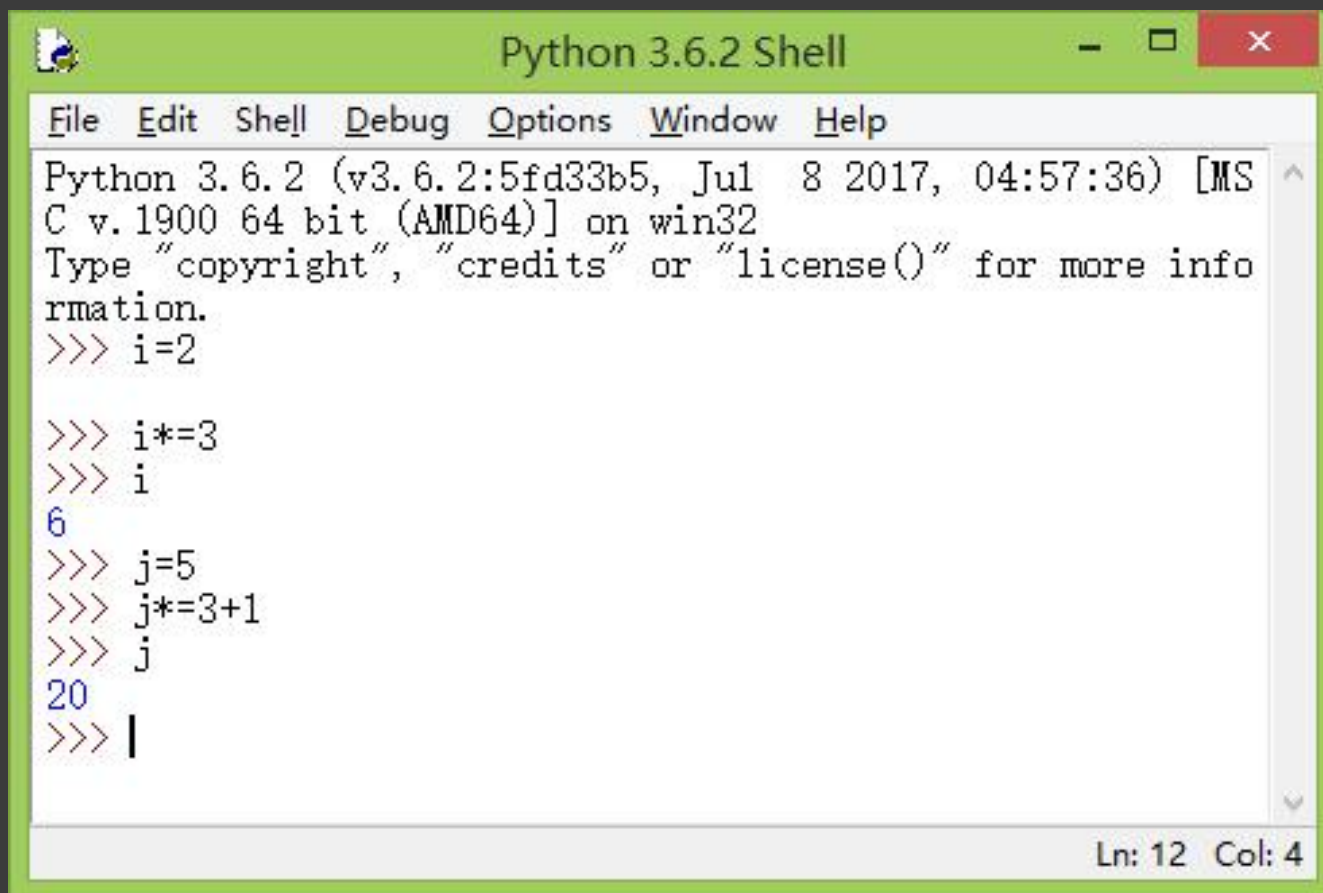
```
Python 3.6.2 Shell
File Edit Shell Debug Options Window Help
Python 3.6.2 (v3.6.2:5fd33b5, Jul 8 2017, 04:57:36) [MS
C v.1900 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more info
rmation.
>>> a=b=c=5

>>> print(a, b, c)
5 5 5
>>> b=b+6
>>> print(a, b, c)
5 11 5

>>>
```

Ln: 11 Col: 4

赋值符号和算术运算符组合



```
Python 3.6.2 Shell
File Edit Shell Debug Options Window Help
Python 3.6.2 (v3.6.2:5fd33b5, Jul 8 2017, 04:57:36) [MS
C v.1900 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more info
rmation.
>>> i=2

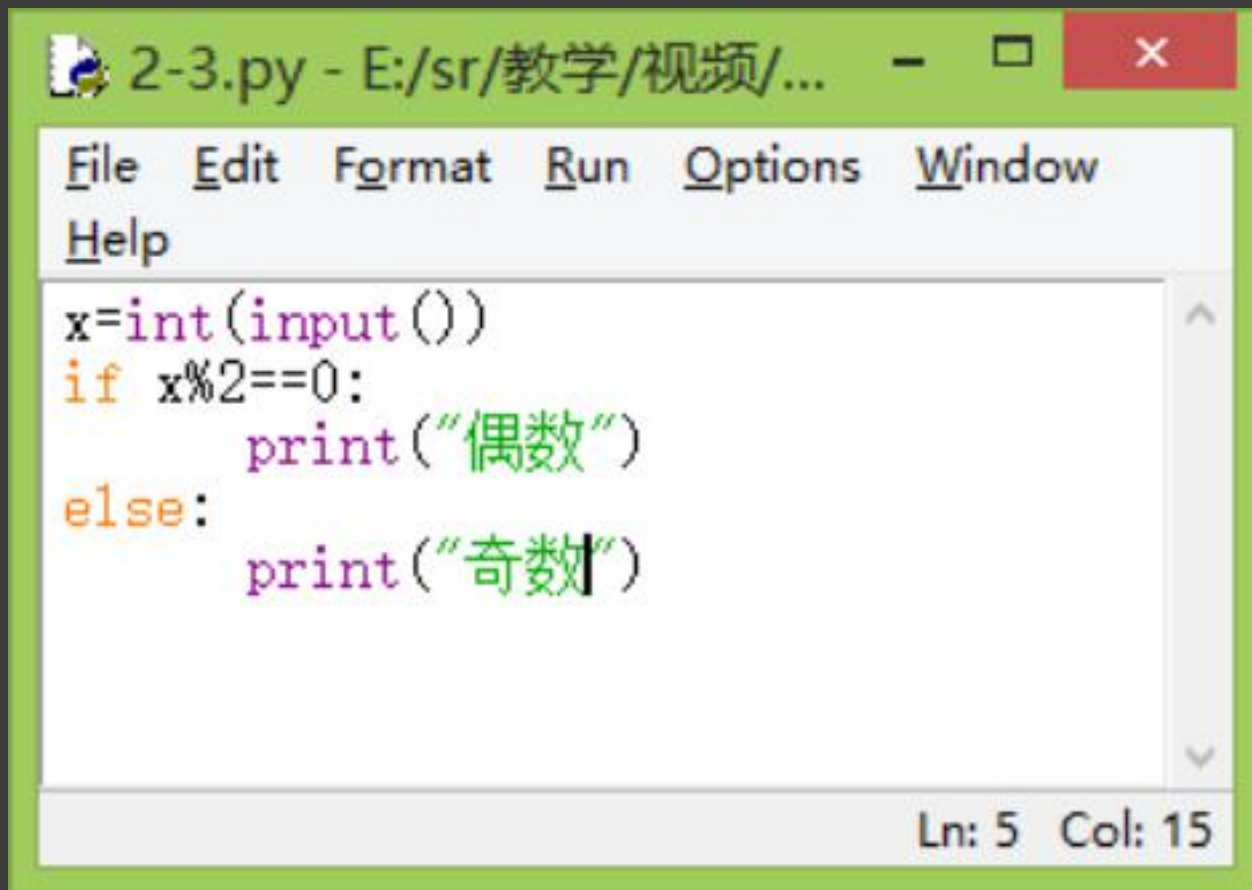
>>> i*=3
>>> i
6
>>> j=5
>>> j*=3+1
>>> j
20
>>> |
```

Ln: 12 Col: 4

分支语句：if语句

```
if 逻辑表达式:  
    语句块1  
else:  
    语句块2
```

例：判断奇偶数



The image shows a screenshot of a Python IDE window titled "2-3.py - E:/sr/教学/视频/...". The window has a menu bar with "File", "Edit", "Format", "Run", "Options", "Window", and "Help". The main text area contains the following Python code:

```
x=int(input())
if x%2==0:
    print("偶数")
else:
    print("奇数")
```

The status bar at the bottom right indicates "Ln: 5 Col: 15".

例：计算水费

为鼓励居民节约用水，自来水公司采取按用水量阶梯式计价的办法，居民应交水费 y （元）与月用水量 x （吨）相关：当 x 不超过15吨时， $y=4x/3$ ；超过后， $y=2.5x-17.5$ ，小数部分保留2位。请编写程序实现水费的计算。



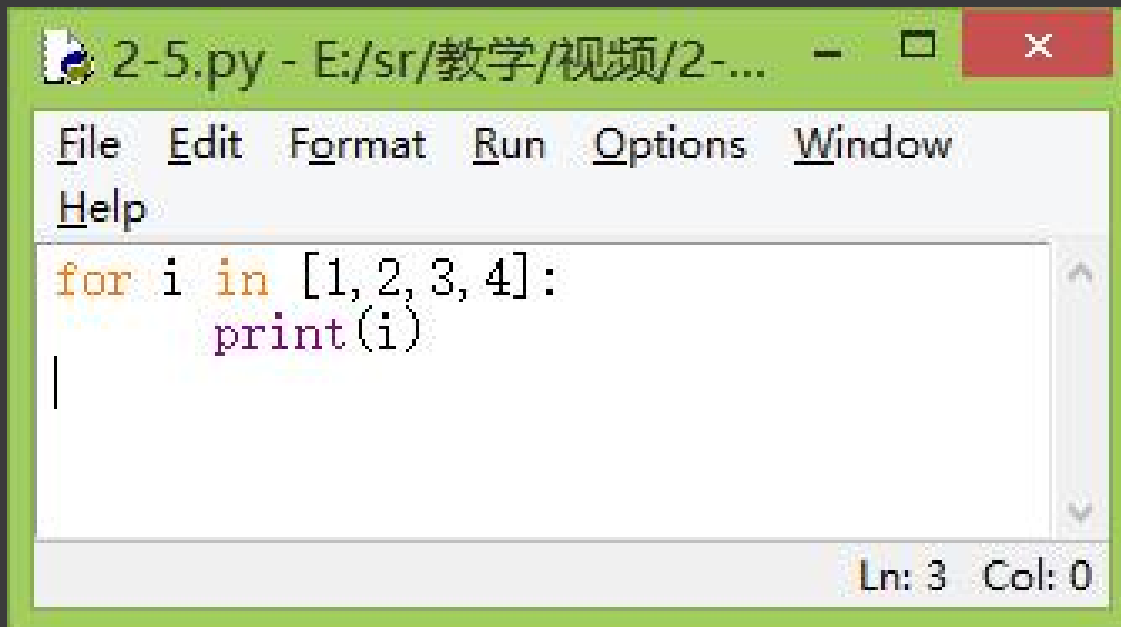
```
2-4.py - E:/sr/教学/视频/2-4.py...  
File Edit Format Run Options Window Help  
x=float(input())  
if x<=15:  
    y=4*x/3  
else:  
    y=2.5*x-17.5  
print("{:.2f}".format(y))  
Ln: 4 Col: 5
```

循环语句: for语句

for variable in 列表:

语句块

例：遍历列表



A screenshot of a Python IDE window titled "2-5.py - E:/sr/教学/视频/2-...". The window has a menu bar with "File", "Edit", "Format", "Run", "Options", "Window", and "Help". The main text area contains the following Python code:

```
for i in [1, 2, 3, 4]:  
    print(i)  
|
```

The status bar at the bottom right indicates "Ln: 3 Col: 0".

range函数

`range(start, stop, step)`。

start: 计数从start开始。默认是从0开始。

例如 `range (5)` 等价于 `range (0, 5)`

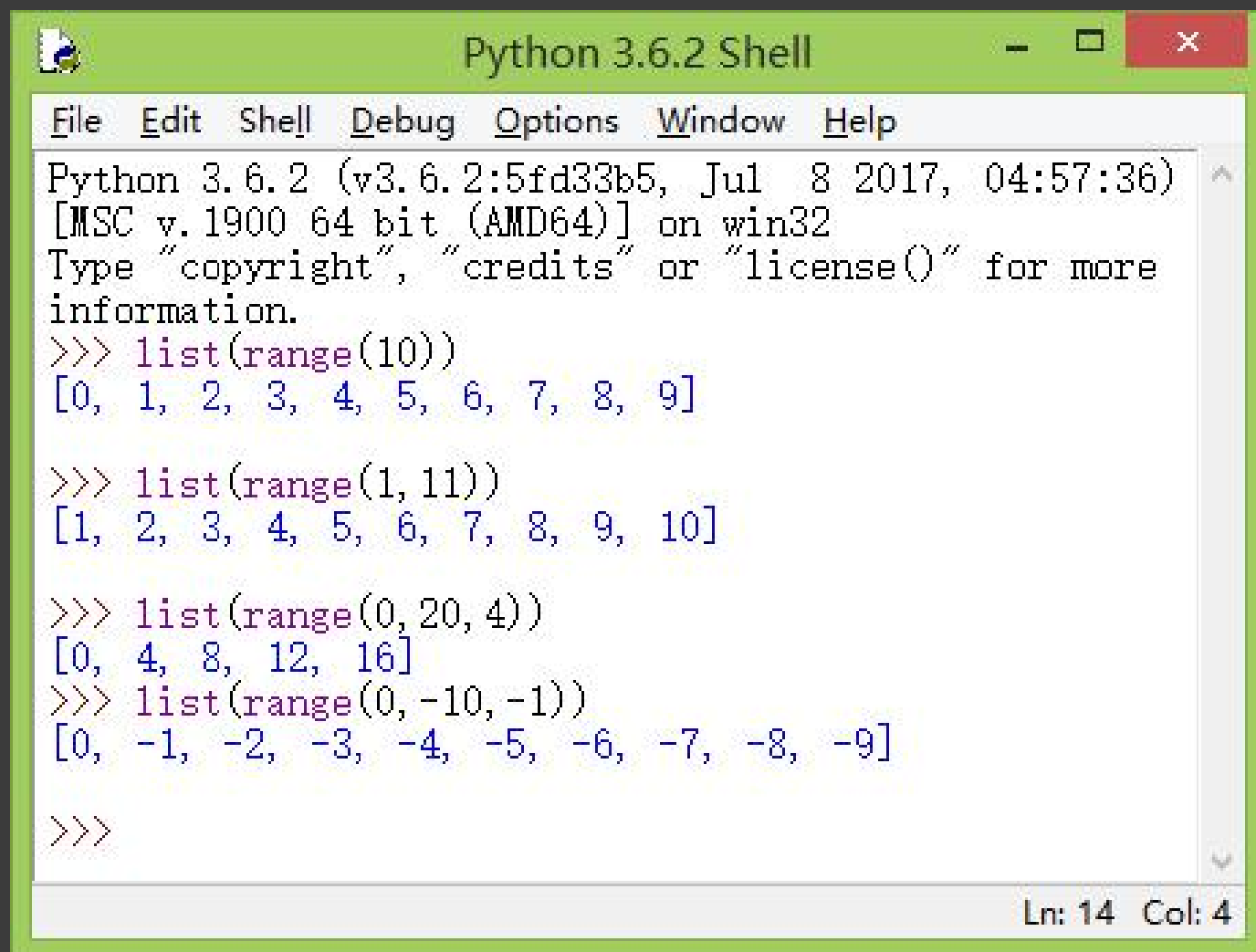
stop: 计数到stop结束，但不包括 stop。

例如: `list(range (0, 5))`是`[0, 1, 2, 3, 4]`没有5

step: 步长，默认为1。

例如: `range (0, 5)` 等价于 `range(0, 5, 1)`

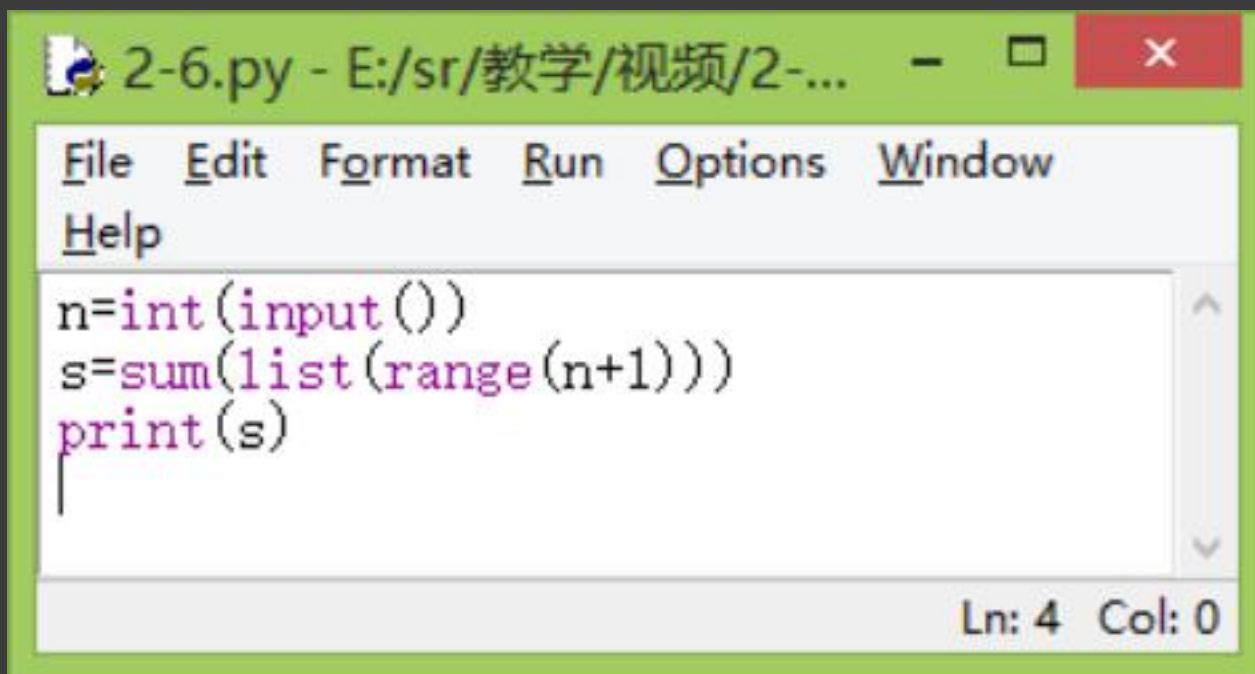
range函数实例

A screenshot of a Python 3.6.2 Shell window. The window has a green title bar with the text "Python 3.6.2 Shell" and standard window controls (minimize, maximize, close). Below the title bar is a menu bar with "File", "Edit", "Shell", "Debug", "Options", "Window", and "Help". The main text area shows the following content:

```
Python 3.6.2 (v3.6.2:5fd33b5, Jul 8 2017, 04:57:36)  
[MSC v.1900 64 bit (AMD64)] on win32  
Type "copyright", "credits" or "license()" for more  
information.  
>>> list(range(10))  
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9]  
  
>>> list(range(1, 11))  
[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]  
  
>>> list(range(0, 20, 4))  
[0, 4, 8, 12, 16]  
>>> list(range(0, -10, -1))  
[0, -1, -2, -3, -4, -5, -6, -7, -8, -9]  
  
>>>
```

At the bottom right of the window, the status bar shows "Ln: 14 Col: 4".

例：
输入n ($n \geq 10$) ,求 $1+2+\dots+n$ 之和。

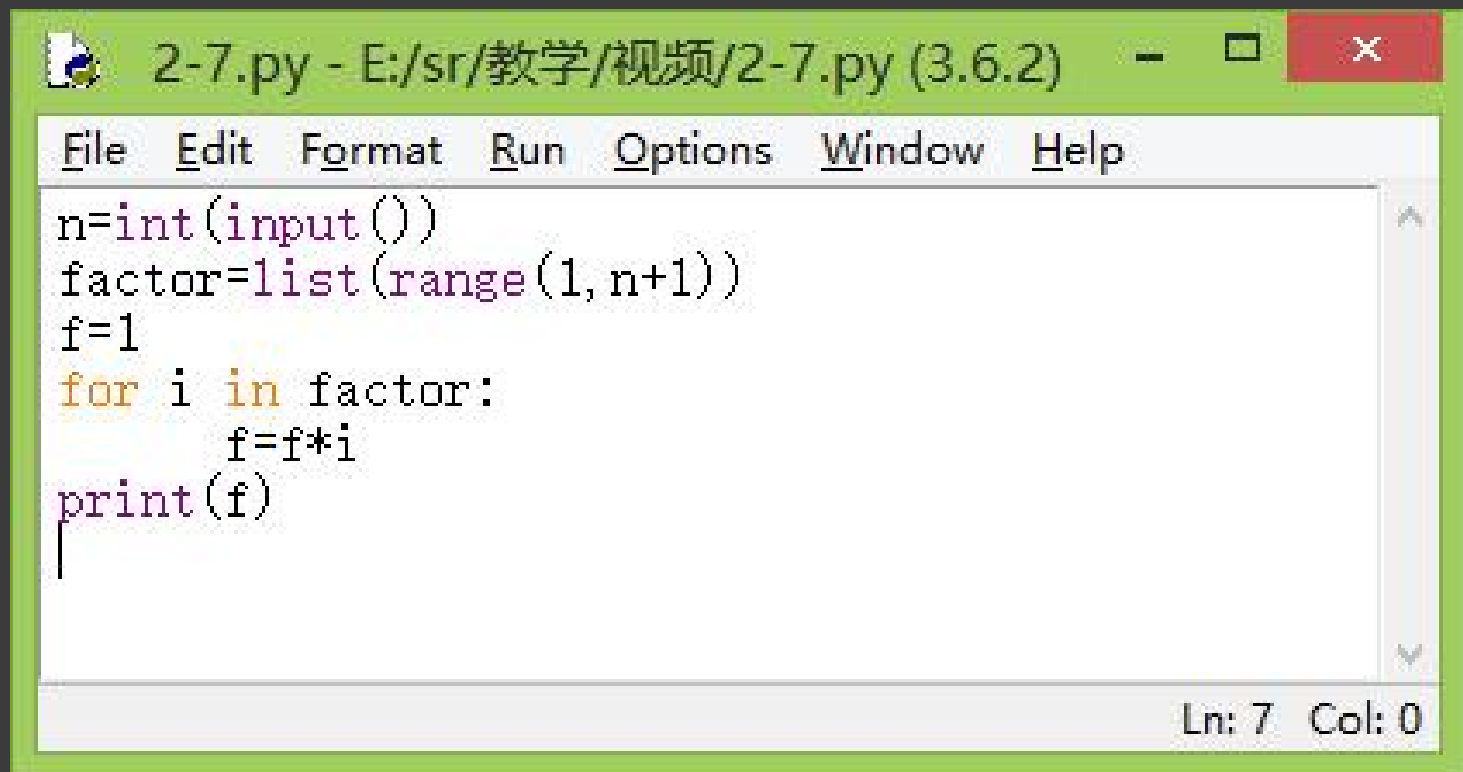


The image shows a screenshot of a Python IDE window titled "2-6.py - E:/sr/教学/视频/2-...". The window has a menu bar with "File", "Edit", "Format", "Run", "Options", "Window", and "Help". The main text area contains the following Python code:

```
n=int(input())  
s=sum(list(range(n+1)))  
print(s)  
|
```

The status bar at the bottom right indicates "Ln: 4 Col: 0".

例：
输入n ($n \geq 5$) 求n!



The image shows a screenshot of a Python IDE window titled "2-7.py - E:/sr/教学/视频/2-7.py (3.6.2)". The window has a menu bar with "File", "Edit", "Format", "Run", "Options", "Window", and "Help". The main text area contains the following Python code:

```
n=int(input())
factor=list(range(1,n+1))
f=1
for i in factor:
    f=f*i
print(f)
```

The status bar at the bottom right of the window indicates "Ln: 7 Col: 0".