

Python Talk 3



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复习

- ▶ 如何创建一个元素tuple?
- ▶ tuple和list有什么区别?
- ▶ 如何合并dict?
- ▶ 如何通过 '1234567890' 得到 '2468'?
- ▶ (1,)
- ▶ list可变
- ▶ update()
- ▶ [1: 8: 2]



循环和判断

▶ 循环 (PythonTalk3)

- ▶ **for**

- ▶ **while**

▶ 循环控制 (PythonTalk4)

- ▶ **break**

- ▶ **continue**

▶ 判断 (PythonTalk4)

- ▶ **if**

- ▶ **else**

- ▶ **elif**



while

▶ 语法

```
while Expression :  
    Code  
    Code  
Code
```

▶ 对比 C 语言

```
while (Expression)  
{  
    Code;  
    Code;  
}  
Code;
```



while 例子

- ▶ 求出 3 至 35 的奇数和

```
i = 3
s = 0
while i <= 35 :
    s += i
    i += 2
print(s)
```



while练习

- ▶ 计算以下数列的和

- ▶ 1, 3, 5, 7, 9, 11, ..., 95, 97, 99

- ▶ 1, 2, 4, 8, 16, ..., 256, 512, 1024

- ▶ 用while计算出这个字符串

- ▶ '1,3,5,7,9,11,13,15,17,19,21,'

- ▶ 提示: `str(1)`的结果是'1'; 用字符串加法



for

► 语法

```
for i in Object :
```

```
    Code
```

```
    Code
```

```
Code
```

► 对比 C 语言（差别很大）

```
for (int i = 0; i <
```

```
    N; i += 1)
```

```
{
```

```
    Code;
```

```
    Code;
```

```
}
```

```
Code;
```



for例子

- ▶ 计算[3, 1, 4, 1, 5, 9, 2, 6, 5]的元素和

```
s = 0
for i in [3, 1, 4, 1, 5, 9, 2, 6, 5] :
    s += i
print(s)
```



sum函数

▶ 语法

▶ `sum(ListOfNumbers)`

▶ 举例

▶ `sum([1, 3, 5])`

▶ 对比

```
s = 0
l = [1, 3, 5]
for i in l :
    s += i
print(s)
```



range函数

► 尝试以下代码

► `for i in range(10): print(i)`

► `for i in range(3, 10): print(i)`

► `for i in range(3, 10, 2): print(i)`



for 练习

- ▶ 计算以下等差数列的和
 - ▶ 1, 2, 3, 4, 5, 6, 7, ... 1365, 1366
 - ▶ 11, 13, 15, 17, 19, ... 95, 97, 99
- ▶ 用 **for** 计算并打印这个字符串
 - ▶ '1,3,5,7,9,11,13,15,17,19,21,'



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