

元组tuple

# 为什么需要元组?

比如：打印用户的姓名

```
userinfo1 = "fentiao 4 male"
```

```
userinfo[0:7]
```

结论:字符串中操作提取姓名/年龄/性别的方式不方便，诞生元组.

# 元组的定义

- 定义空元组  
tuple = ()
- 定义单个值的元组  
tuple = (fentiao,)
- 一般的元组  
tuple = (fentiao, 8, male)

# 元组特性

- 不能对元组的值任意更改;

```
In [30]: t1 = ('fentiao',4,'male')
```

```
In [31]: t1[0] = 'fendai'
```

```
-----  
TypeError                                Traceback (most recent call last)  
<ipython-input-31-8870739c2bca> in <module>()  
----> 1 t1[0] = 'fendai'  
  
TypeError: 'tuple' object does not support item assignment
```

# 元组特性

- 对元组分别赋值,引申对多个变量也可通过元组方式分别赋值

```
In [33]: t1 = ('fentiao',4,'male')
```

```
In [34]: name,age,gender = t1
```

```
In [35]: print name,age,gender  
fentiao 4 male
```

# 执行操作并思考

为什么可以改变元组的值呢？

```
In [36]: t = ("172.25.254.250", '172.25.0.250', 'server0.example.com')  
  
In [37]: t[0][0] = '172.25.254.1'  
  
In [38]: print t  
(['172.25.254.1', '172.25.0.250'], 'server0.example.com')
```

# 元组的操作

元组也属于序列，可执行的操作如下：

索引、切片、重复、连接和查看长度

```
In [41]: t = ('1','2','3')*2
In [42]: print t
('1', '2', '3', '1', '2', '3')
In [43]: t1 = ('hello','world')
In [44]: t2 = ('hello','westos')
In [45]: print t1 + t2
('hello', 'world', 'hello', 'westos')
In [46]: len(t1)
Out[46]: 2
```

# 删除元组

```
In [47]: t1
Out[47]: ('hello', 'world')

In [48]: del(t1)

In [49]: t1
-----
NameError                                Traceback (most recent call last)
<ipython-input-49-7533422ecb03> in <module>()
----> 1 t1

NameError: name 't1' is not defined
```



# 元组的方法

- `t.count(value)-->int`  
返回value在元组中出现的次数；
- `t.index(value)`  
返回value在元组中的偏移量(即索引值)

over !