37. Series

37.1 主要特点

37.2 定义方法

In [3]:
```
import pandas as pd
mySeries1=pd.Series([11,12,13,14,15,16,17], index=["a","b","c","d","e","f","g"])
mySeries1
```

Out[3]:
```
a    11
b    12
c    13
d    14
e    15
f    16
g    17
dtype: int64
```

In [4]:
```
import pandas as pd
mySeries1=pd.Series([11,12,13,14,15,16,17], index=[a,b,c,d,e,f,g])
mySeries1
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-4-30a072647f76> in <module>()
      1 import pandas as pd
----> 2 mySeries1=pd.Series([11,12,13,14,15,16,17], index=[a,b,c,d,e,f,g])
      3
      4 mySeries1 #【注意】报错信息为NameError: name 'a' is not defined，原因分析：index为字符串时，忘记了用双引号或单引号括起来。

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

In [5]:
```
mySeries2=pd.Series([10], index=["a","b","c","d","e","f","g"])
mySeries2
```

Out[5]:
```
a    10
b    10
c    10
d    10
e    10
f    10
g    10
dtype: int64
```

In [20]:
```
mySeries3=pd.Series([1,2,3,4,5], index=["a","b","c"])
mySeries3
```

```
---------------------------------------------------------------------------
```

```
ValueError                                Traceback (most recent call last
)
<ipython-input-20-0785eae88a5c> in <module>()
      1 #【注意】当data中的values多于一个时，values和index的个数应一致。
      2
----> 3 mySeries3=pd.Series([1,2,3,4,5], index=["a","b","c"])
      4
      5 mySeries3

C:\Anaconda\lib\site-packages\pandas\core\series.py in __init__(self, da
ta, index, dtype, name, copy, fastpath)
    264                                             raise_cast_failure=True)
    265
--> 266                 data = SingleBlockManager(data, index, fastpath=
True)
    267
    268         generic.NDFrame.__init__(self, data, fastpath=True)

C:\Anaconda\lib\site-packages\pandas\core\internals.py in __init__(self,
 block, axis, do_integrity_check, fastpath)
   4400         if not isinstance(block, Block):
   4401             block = make_block(block, placement=slice(0, len(axi
s)), ndim=1,
-> 4402                                fastpath=True)
   4403
   4404         self.blocks = [block]

C:\Anaconda\lib\site-packages\pandas\core\internals.py in make_block(val
ues, placement, klass, ndim, dtype, fastpath)
   2955                         placement=placement, dtype=dtype)
   2956
-> 2957     return klass(values, ndim=ndim, fastpath=fastpath, placement
=placement)
   2958
   2959 # TODO: flexible with index=None and/or items=None

C:\Anaconda\lib\site-packages\pandas\core\internals.py in __init__(self,
 values, placement, ndim, fastpath)
    118                 raise ValueError('Wrong number of items passed %d, p
lacement '
    119                                  'implies %d' % (len(self.values),
--> 120                                                  len(self.mgr_locs))
)
    121
    122     @property

ValueError: Wrong number of items passed 5, placement implies 3
```

37.3 操作方法

In [21]:
```
import pandas as pd
mySeries4=pd.Series([21,22,23,24,25,26,27], index=["a","b","c","d","e","
f","g"])
mySeries4.index
```

Out[21]:
```
Index(['a', 'b', 'c', 'd', 'e', 'f', 'g'], dtype='object')
```

In [22]:
```
mySeries4.values  #【注意】此处，values的拼写方法为复数
```

```
Out[22]: array([21, 22, 23, 24, 25, 26, 27], dtype=int64)
```

```
In [24]: mySeries4['b']
```

```
Out[24]: (22, 22)
```

```
In [25]: mySeries4["b"]
```

```
Out[25]: 22
```

```
In [26]: mySeries4[["a","b","c"]]
```

```
Out[26]: a    21
         b    22
         c    23
         dtype: int64
```

```
In [27]: mySeries4["a":"d"]
```

```
Out[27]: a    21
         b    22
         c    23
         d    24
         dtype: int64
```

```
In [28]: mySeries4[1:4:2]
```

```
Out[28]: b    22
         d    24
         dtype: int64
```

```
In [29]: mySeries4
```

```
Out[29]: a    21
         b    22
         c    23
         d    24
         e    25
         f    26
         g    27
         dtype: int64
```

```
In [30]: "c" in mySeries4
```

```
Out[30]: True
```

```
In [31]: "h" in mySeries4
```

```
Out[31]: False
```

```
In [34]: import pandas as pd
         mySeries4=pd.Series([21,22,23,24,25,26,27], index=["a","b","c","d","e","
         f","g"])
         mySeries5=mySeries4.reindex(index=["b","c","a","d","e","g","f"])
         mySeries5
```

```
Out[34]: b    22
         c    23
         a    21
         d    24
         e    25
```

```
g    27
f    26
dtype: int64
```

In [35]:
```
mySeries5=mySeries4.reindex(index=["b","c","a","d","e","g","f"])
mySeries4
```

Out[35]:
```
a    21
b    22
c    23
d    24
e    25
f    26
g    27
dtype: int64
```

In [39]:
```
mySeries5=mySeries4.reindex(index=["new1","c","a","new2","e","g","new3"]
)
mySeries5
```

Out[39]:
```
new1     NaN
c       23.0
a       21.0
new2     NaN
e       25.0
g       27.0
new3     NaN
dtype: float64
```

In [41]:
```
mySeries4
```

Out[41]:
```
a    21
b    22
c    23
d    24
e    25
f    26
g    27
dtype: int64
```