

## 7.1 - Axis

July 12, 2017

```
In [1]: import pandas as pd
```

```
In [2]: df = pd.DataFrame([[1, 1.5, 'a', 17]]*100)
```

```
In [3]: df.head()
```

```
Out[3]:
```

	0	1	2	3
0	1	1.5	a	17
1	1	1.5	a	17
2	1	1.5	a	17
3	1	1.5	a	17
4	1	1.5	a	17

```
In [4]: df.dtypes
```

```
Out[4]:
```

0	int64
1	float64
2	object
3	int64
dtype:	object

```
In [5]: df.mean()
```

```
Out[5]:
```

0	1.0
1	1.5
3	17.0
dtype:	float64

```
In [6]: df.mean(axis=1)
```

```
Out[6]:
```

0	6.5
1	6.5
2	6.5
3	6.5
4	6.5
5	6.5
6	6.5
7	6.5
8	6.5

9	6.5
10	6.5
11	6.5
12	6.5
13	6.5
14	6.5
15	6.5
16	6.5
17	6.5
18	6.5
19	6.5
20	6.5
21	6.5
22	6.5
23	6.5
24	6.5
25	6.5
26	6.5
27	6.5
28	6.5
29	6.5
	...
70	6.5
71	6.5
72	6.5
73	6.5
74	6.5
75	6.5
76	6.5
77	6.5
78	6.5
79	6.5
80	6.5
81	6.5
82	6.5
83	6.5
84	6.5
85	6.5
86	6.5
87	6.5
88	6.5
89	6.5
90	6.5
91	6.5
92	6.5
93	6.5
94	6.5
95	6.5

```
96    6.5
97    6.5
98    6.5
99    6.5
Length: 100, dtype: float64
```

```
In [7]: #?
df.transpose().mean() == df.mean(axis=1)
```

```
-----

ValueError                                Traceback (most recent call last)

<ipython-input-7-0a841f6bb83d> in <module>()
    1 #?
----> 2 df.transpose().mean() == df.mean(axis=1)

/home/pietro/nobackup/repo/pandas/pandas/core/ops.py in wrapper(self, other)
    816         if not self._indexed_same(other):
    817             msg = 'Can only compare identically-labeled Series objects'
--> 818             raise ValueError(msg)
    819         return self._constructor(na_op(self.values, other.values),
    820                                 index=self.index, name=name)

ValueError: Can only compare identically-labeled Series objects
```

```
In [8]: df.transpose().mean()
```

```
Out[8]: Series([], dtype: float64)
```

```
In [9]: df.transpose().dtypes
```

```
Out[9]: 0    object
1    object
2    object
3    object
4    object
5    object
6    object
7    object
8    object
9    object
10   object
11   object
12   object
```

13 object  
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97 object  
98 object  
99 object

Length: 100, dtype: object