learn_series

August 9, 2023

[24]:
```
import pandas as pd
```

[26]:
```
pd.__version__
```

[26]:
```
'2.0.3'
```

[30]:
```
s = pd.Series()
s
```

[30]:
```
Series([], dtype: object)
```

[31]:
```
s = pd.Series([1, 2, 3])
s
```

[31]:
```
0    1
1    2
2    3
dtype: int64
```

[33]:
```
s = pd.Series(["hasan", True, False, 3])
s
```

[33]:
```
0    hasan
1     True
2    False
3        3
dtype: object
```

[37]:
```
s = pd.Series(["hasan", True, False, 3])
s.index = ['R1', 'R2', 'R3', 'R4']
s
```

[37]:
```
R1    hasan
R2     True
R3    False
R4        3
dtype: object
```

[41]:
```
s = pd.Series(["hasan", True, False, 3])
s.index = ['R1', 'R2', 'R3', 'R4']
s[0] , s['R2']
```

[41]:
```
('hasan', True)
```

[42]:
```
s = pd.Series(["hasan", True, False, 3], index = ['R1', 'R2', 'R3', 'R4'])
s
```

[42]:
```
R1    hasan
R2     True
R3    False
R4        3
dtype: object
```

[43]:
```
import numpy as np
s = pd.Series([1, 2, 3, 4], dtype = np.uint8)
s
```

[43]:
```
0    1
1    2
2    3
3    4
dtype: uint8
```

[46]:
```
s = pd.Series({'u1': 'amir', 'u2': 'hasan', 'u3': 'reza'})
s
```

[46]:
```
u1     amir
u2    hasan
u3     reza
dtype: object
```

[48]:
```
s = pd.Series({'u1': 'amir', 'u2': 'hasan', 'u3': 'reza'})
s[1], s['u2']
```

[48]:
```
('hasan', 'hasan')
```

[48]:
```
s = pd.Series({'u1': 'amir', 'u2': 'hasan', 'u3': 'reza'})
s[1], s['u2']
```

[48]:
```
('hasan', 'hasan')
```

[51]:
```
s = pd.Series({'u1': 'amir', 'u2': 'hasan', 'u3': 'reza'})
type(s.values)
```

[51]:
```
numpy.ndarray
```

[58]:
```
s = pd.Series({'u1': 'amir', 'u2': 'hasan', 'u3': 'reza'})
s.index, s.values, s.size, s.dtype, s.is_unique, s.is_monotonic_increasing, s.
 ↪is_monotonic_decreasing
```

[58]:
```
(Index(['u1', 'u2', 'u3'], dtype='object'),
 array(['amir', 'hasan', 'reza'], dtype=object),
 3,
 dtype('O'),
 True,
 True,
 False)
```

[59]:
```
s = pd.Series(range(0, 500, 1))
s
```

[59]:
```
0        0
1        1
2        2
3        3
4        4
      …
495    495
496    496
497    497
498    498
499    499
Length: 500, dtype: int64
```

[63]:
```
s = pd.Series(range(0, 500, 1))
s.head(3), '------------',  s.tail()
```

[63]:
```
(0    0
 1    1
 2    2
 dtype: int64,
 '------------',
 495    495
 496    496
 497    497
 498    498
 499    499
 dtype: int64)
```

[88]:
```
s = pd.Series([1, 2, 3, np.nan, 5]) #np.nan: not a number :
s
```

[88]:
```
0    1.0
1    2.0
2    3.0
3    NaN
4    5.0
dtype: float64
```

[87]:
```
s.count(), s.sum(), s.product() #
```

[87]:
```
(4, 11.0, 30.0)
```

[86]:
```
s.cumsum()   #
```

[86]:
```
0     1.0
1     3.0
2     6.0
3     NaN
4    11.0
dtype: float64
```

[85]:
```
s.pct_change()   #
```

[85]:
```
0         NaN
1    1.000000
2    0.500000
3    0.000000
4    0.666667
dtype: float64
```

[84]:
```
s.min(), s.max(), s.mean()     #
```

[84]:
```
(1.0, 5.0, 2.75)
```

[83]:
```
s.describe()
```

[83]:
```
count    4.000000
mean     2.750000
std      1.707825
min      1.000000
25%      1.750000
50%      2.500000
75%      3.500000
max      5.000000
dtype: float64
```

[82]:
```
s.sample()   #
```

[82]:
```
3   NaN
dtype: float64
```

[96]:
```
s.sample(3)   #
```

[96]:
```
4    5.0
2    3.0
0    1.0
dtype: float64
```

[99]:
```
#
len(s)
#list(s)
```

[99]:
```
5
```