Pandas Essentials part 1

August 21, 2022

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

```python
[2]: l1=([1,2,34,5,6,78,4])
```

```python
[3]: s=pd.Series(l1)
```

```python
[4]: s
     #it will show index column and s colmn
```

```
[4]: 0     1
     1     2
     2    34
     3     5
     4     6
     5    78
     6     4
     dtype: int64
```

```python
[5]: s1=pd.Series([2,3,5,6,7,435])
```

```python
[6]: s1
```

```
[6]: 0      2
     1      3
     2      5
     3      6
     4      7
     5    435
     dtype: int64
```

- Indexing

```python
[7]: S1=pd.Series([1,2,3,4,5],index=['a','b','c','d','e'])
```

```python
[8]: S1
     # it give index to the elements
```

```
[8]: a    1
     b    2
     c    3
     d    4
     e    5
     dtype: int64
```

```
[9]: S1=pd.Series([1,2,3,4,5],index=['sparta','ahmad','khan','usman','nikel'])
```

```
[10]: S1
```

```
[10]: sparta    1
      ahmad     2
      khan      3
      usman     4
      nikel     5
      dtype: int64
```

0.0.1 Seires of Dictionary

```
[11]: s1=pd.Series({'khan':10,'ahmad':34})
```

```
[12]: s1
```

```
[12]: khan     10
      ahmad    34
      dtype: int64
```

- indexing values in Series

```
[13]: s2=pd.Series({'a':100,'b':200})
```

```
[14]: s2
```

```
[14]: a    100
      b    200
      dtype: int64
```

```
[15]: s2=pd.Series({'a':100,'b':200,'c':2},index=['d','c'])
```

```
[16]: s2 # it will show only d & c because a and b is not there
```

```
[16]: d    NaN
      c    2.0
      dtype: float64
```

- Extracting Single Element

```
[17]: a1=pd.Series([2,3,4,5,6,7])
```

```
[18]: a1[1]
```

```
[18]: 3
```

```
[19]: a1[4]
```

```
[19]: 6
```

- Extracting Sequence of Elements

```
[20]: a1[1:3]
```

```
[20]: 1    3
      2    4
      dtype: int64
```

```
[21]: a1[:-1]
```

```
[21]: 0    2
      1    3
      2    4
      3    5
      4    6
      dtype: int64
```

```
[22]: a1[5]
```

```
[22]: 7
```

```
[23]: a1[-3:]
```

```
[23]: 3    5
      4    6
      5    7
      dtype: int64
```

```
[24]: a1+2
```

```
[24]: 0    4
      1    5
      2    6
      3    7
      4    8
      5    9
```

```
dtype: int64
```

[25]: `b1=pd.Series([1,2,3,4,5,6])`

[26]: `b2=pd.Series([5,6,7])`

[27]:
```
b1+b2
# Adding two Series
```

[27]:
```
0     6.0
1     8.0
2    10.0
3     NaN
4     NaN
5     NaN
dtype: float64
```

[28]:
```
b1+3
# Adding a scalar value to Series Elements
```

[28]:
```
0    4
1    5
2    6
3    7
4    8
5    9
dtype: int64
```

[29]: `c1=pd.Series([1,2,3,4,5,6])`

[30]: `c2=pd.Series([5,6,7,8,9,8])`

[31]: `c1+c2`

[31]:
```
0     6
1     8
2    10
3    12
4    14
5    14
dtype: int64
```

[32]:
```
c1-c2
# Subtracting two Series
```

[32]:
```
0   -4
1   -4
```

```
2    -4
3    -4
4    -4
5    -2
dtype: int64
```

[33]:
```
c1*3
# Multiply with 3
```

[33]:
```
0     3
1     6
2     9
3    12
4    15
5    18
dtype: int64
```