pandas<< series, dataframes

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

In [3]:
```
obj= pd.Series([4,5,6,7])
obj
```

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

In [4]:
```
#series
a= pd.Series(["A", "B", "C", "D"])
a
```

Out[4]:
```
0    A
1    B
2    C
3    D
dtype: object
```

In [5]:
```
#values
a.values
```

Out[5]:
```
array(['A', 'B', 'C', 'D'], dtype=object)
```

In [6]:
```
#index
a.index
```

Out[6]:
```
RangeIndex(start=0, stop=4, step=1)
```

In [14]:
```
arr= pd.Series([11,22,33,44], index=["A", "B", "C", "D"])
arr
```

Out[14]:
```
A    11
B    22
C    33
D    44
dtype: int64
```

Access data

In [15]:
```
arr[1]
```

Out[15]:
```
22
```

In [16]:
```
arr[2]
```

Out[16]:
```
33
```

In [ ]:
```
#to get multiple values then we use
```

In [22]:
```
arr[[0,2,3]]
```

Out[22]:
```
A    11
C    33
D    44
dtype: int64
```

In [24]:
```
arr>20
```

Out[24]:
```
A    False
B     True
C     True
D     True
dtype: bool
```

In [ ]:
```
Modify data by +,-,/,*
```

In [25]:
```
arr-2
```

Out[25]:
```
A     9
B    20
C    31
D    42
dtype: int64
```

In [26]:
```
arr+2
```

Out[26]:
```
A    13
B    24
C    35
D    46
dtype: int64
```

In [27]:
```
arr/3
```

Out[27]:
```
A     3.666667
B     7.333333
C    11.000000
D    14.666667
dtype: float64
```

In [28]:
```
arr*3
```

Out[28]:
```
A     33
B     66
C     99
D    132
dtype: int64
```

In [29]:
```
arr%2
```

Out[29]:
```
A    1
B    0
C    1
D    0
dtype: int64
```

In [31]:
```
"A" in arr
```

Out[31]:
```
True
```

In [32]:
```
1 in arr
```

Out[32]:
```
False
```

In [33]:
```
import numpy as np
```

In [41]:
```
array=np.array([11,22,33,44])
array
```

Out[41]:
```
array([11, 22, 33, 44])
```

In [42]:
```
series=pd.Series(array)
series
```

Out[42]:
```
0    11
1    22
2    33
3    44
dtype: int32
```

From dictionary to pandas series

In [48]:
```
week_days={"monday":1, "tuesday":2, "wednesday":3, "thursday":4 , "friday":5, "saturday": 6, "sunday": 7}
```

In [49]:
```
week_series=pd.Series(week_days)
week_series
```

Out[49]:
```
monday       1
tuesday      2
wednesday    3
thursday     4
friday       5
saturday     6
sunday       7
dtype: int64
```

how to add 2 different series and what is the concept behind this???

In [55]:
```
A= pd.Series([33,44,55])
B = pd.Series([4, 5, 6])
result=A+B
print(result)
```

```
0    37
1    49
2    61
dtype: int64
```

two series have different lengths

In [56]:
```
A= pd.Series([33,44,55])
B = pd.Series([4, 5])
result=A+B
print(result)       #there is no corresponding value for the third index in b,
                     #Pandas assigns NaN to that element in the result.
```

```
0    37.0
1    49.0
2     NaN
dtype: float64
```