Series

deals with 1D array.

In [1]:
```
import pandas as pd
a=[1,2,3,4,5]
b=pd.Series(a)
print(b)
print()
print(type(b))
print()
print(b[3])
```

```
0    1
1    2
2    3
3    4
4    5
dtype: int64

<class 'pandas.core.series.Series'>

4
```

In [2]:
```
a=[1,2,3,4,5]
b=pd.Series(a,index=['p','o','o','j','a'])
print(b)
print()
print(type(b))
print()
print(b[3])
```

```
p    1
o    2
o    3
j    4
a    5
dtype: int64

<class 'pandas.core.series.Series'>

4
```

In [3]:
```
a=[1,2,3,4,5]
b=pd.Series(a,index=['p','o','o','j','a'],dtype="float",name="python Pandas")
print(b)
print()
print(type(b))
print()
print(b[3])
```

```
p    1.0
o    2.0
o    3.0
j    4.0
a    5.0
Name: python Pandas, dtype: float64

<class 'pandas.core.series.Series'>

4.0
```

Data Frame

deals with 2D array.

In [4]:
```
a=[1,2,3,4,5]#list
b=pd.DataFrame(a)
print(b)
print()
print(type(b))
```

```
   0
0  1
1  2
2  3
3  4
4  5

<class 'pandas.core.frame.DataFrame'>
```

In [5]:
```
d={"a":[1,2,3,4,5],"b":[6,7,8,9,10],"c":[4,9,8,5,3],1:['p','q','r','s','t']} #dictionary
#should be of same size otherwise an error will show.
b=pd.DataFrame(d)
print(b)
print(type(b))
# b=pd.DataFrame(d,columns=["b"]) # to print column b of data frame.
# print(b)
print(b["c"][3]) # to print column c , row 3rd value.
```

```
   a   b  c  1
0  1   6  4  p
1  2   7  9  q
2  3   8  8  r
3  4   9  5  s
4  5  10  3  t
<class 'pandas.core.frame.DataFrame'>
5
```

In [6]:
```
d=[[1,2,3,4,5],[6,7,8,9,10],[4,9,8,5,3]] #list of lists.
b=pd.DataFrame(d)
print(b)
```

```
   0  1  2  3   4
0  1  2  3  4   5
1  6  7  8  9  10
2  4  9  8  5   3
```

Arithmetic Operations

In [7]:
```
d={"A":[1,2,3,4,5],"B":[6,7,8,9,10]} #dictionary
#should be of same size otherwise an error will show.
b=pd.DataFrame(d)
print(b)
print("----------------------------")
b["C"]=b["A"]+b["B"]
# a coulmn with name C will be created at last position and
#column A's and B's values will be added respectively.
print(b)
print("----------------------------")
b["C"]=b["A"]-b["B"]
print(b)
```

```
   A   B
0  1   6
1  2   7
2  3   8
3  4   9
4  5  10
----------------------------
   A   B   C
0  1   6   7
1  2   7   9
2  3   8  11
3  4   9  13
4  5  10  15
----------------------------
   A   B  C
0  1   6 -5
1  2   7 -5
2  3   8 -5
3  4   9 -5
4  5  10 -5
```

conditional

In [8]:
```
d={"A":[10,20,30,40,50],"B":[16,17,18,19,41]}
b=pd.DataFrame(d)
b["python"]=b["A"]>20
# a coulmn with name python will be created at last position and
#for each matched condition it will print true else false.
b["python1"]=b["B"]<20
print(b)
```

```
    A   B  python  python1
0  10  16   False     True
1  20  17   False     True
2  30  18    True     True
3  40  19    True     True
4  50  41    True    False
```

insert

In [9]:
```
d={"A":[10,20,30,40,50],"B":[16,17,18,19,41]}
b=pd.DataFrame(d)
print(b)
print("----------------------------")
b.insert(1,"python",b["A"]) #insert column at 1st position with name python with column A's values.
print(b)
print("----------------------------")
b.insert(0,"python_1",[1,2,3,4,5]) #insert column at 0th position with name python_1 with following val
print(b)
print("----------------------------")
b["py"]=b["A"][:2]
#insert column with name py(default position is last position) with A's values of column 0 to 1.
print(b)
print("----------------------------")
```

```
    A   B
0  10  16
1  20  17
2  30  18
3  40  19
4  50  41
----------------------------
    A  python   B
0  10      10  16
1  20      20  17
2  30      30  18
3  40      40  19
4  50      50  41
----------------------------
   python_1   A  python   B
0         1  10      10  16
1         2  20      20  17
2         3  30      30  18
3         4  40      40  19
4         5  50      50  41
----------------------------
   python_1   A  python   B    py
0         1  10      10  16  10.0
1         2  20      20  17  20.0
2         3  30      30  18   NaN
3         4  40      40  19   NaN
4         5  50      50  41   NaN
----------------------------
```

delete

In [10]:

```
d={"A":[1,2,3,4,5],"B":[6,7,8,9,10],"C":[4,9,8,5,3]} #dictionary
b=pd.DataFrame(d)
print(b)
print("------------------------------------------------------------")
b.pop("B") #1st Method
print(b)
print("------------------------------------------------------------")
del b["A"] #2nd Method
print(b)
```

```
   A   B  C
0  1   6  4
1  2   7  9
2  3   8  8
3  4   9  5
4  5  10  3
------------------------------------------------------------
   A  C
0  1  4
1  2  9
2  3  8
3  4  5
4  5  3
------------------------------------------------------------
   C
0  4
1  9
2  8
3  5
4  3
```