```
1 import pandas as pd
1 s=pd.Series([1,2,3,4,5,6,7,8])
1 type(s)
   pandas.core.series.Series
1 print(s)
   0 1
        2
   1
   2 3
   3
       4
   4
       5
   5
        6
   6 7
   7 8
   dtype: int64
1 print(s)
   0 1
        2
   1
   2
        3
   3
   4
       5
   5
   6 7
   7 8
   dtype: int64
1 for i in s:
       print(i)
   1
   2
   3
   4
   5
   7
   8
1 for i in range(0,len(s)):
     print("at",i,"we have",s[i])
   at 0 we have 1
   at 1 we have 2
   at 2 we have 3
   at 3 we have 4
   at 4 we have 5
   at 5 we have 6
```

1 min(s)

```
at 6 we have 7
   at 7 we have 8
1 1=[1,2,3,4]
2 1*2
   [1, 2, 3, 4, 1, 2, 3, 4]
1 s
   0
      1
       2
   1
   2
       3
   3
   4
       5
   5
       6
   6
       7
   7 8
   dtype: int64
1 s-2
   0 -1
   2
       1
   3
   4
   5
      4
   6 5
   7 6
   dtype: int64
1 s=s*10
1 print(s)
   0
       10
   1
       20
   2
       30
   3
       40
   4
       50
   5
       60
   6
       70
   7
       80
   dtype: int64
1 s[-1]#not supported
1 len(s)
   8
```

10

```
1 max(s)
   80
1 sum(s)
   360
1 s=pd.Series([1,2,3,4])
2 s2=pd.Series([10,20,30,40,50])
3 s3=s+s2
1 print(s3)
   0
        11.0
        22.0
   1
   2
        33.0
   3
        44.0
   4
         NaN
   dtype: float64
1 s[0:4]
   0
      1
   1
        2
   2
        3
   3 4
   dtype: int64
1 from google.colab import files
2 uploaded=files.upload()
    Choose Files No file chosen
                                    Upload widget is only available when the cell has been executed in
   the current browser session. Please rerun this cell to enable.
   Caving mucey cey to mucey cey
1 import pandas as pd
2 import io
3 df=pd.read_csv(io.BytesIO(uploaded['mycsv.csv']))
4 print(df)
           name gender
       id
                          salary
                           10000
        1
                   male
            aaaa
        2 bbbb female
                            8000
                    male
                          120000
        3 ccccc
                           45000
   3
        4
            dddd
                    male
        5
            eeee female
                           334567
   5
        6 ffff female
                           21234
                  female
                            2345
            gggg
   7
        8 hhhh
                 female
                           23456
   8
        9
           iiii
                   male
                            7654
```

9	10	לככ	ma⊥e	3456578
10	11	kkkk	male	45678
11	12	1111	male	345
12	13	mmmm	female	9876
13	14	nnnnn	male	34567
14	15	jjjj	male	87654
15	16	iiii	female	34567
16	17	mmmm	female	1234
17	18	nnnnn	female	23456
18	19	0000	female	5555
19	20	gggg	male	3455

1 df

	id	name	gender	salary
0	1	aaaa	male	10000
1	2	bbbb	female	8000
2	3	cccc	male	120000
3	4	dddd	male	45000
4	5	eeee	female	334567
5	6	ffff	female	21234
6	7	9999	female	2345
7	8	hhhh	female	23456
8	9	iiii	male	7654
9	10	jjj	male	3456578
10	11	kkkk	male	45678
11	12	IIII	male	345
12	13	mmmm	female	9876
13	14	nnnnn	male	34567
14	15	زززز	male	87654
15	16	iiii	female	34567
16	17	mmmm	female	1234
17	18	nnnnn	female	23456
18	19	0000	female	5555
19	20	pppp	male	3455

1 df.name

- 0 aaaa
- 1 bbbb
- 2 ccccc
- 3 dddd
- 4 eeee

ffff

```
6
          gggg
   7
          hhhh
   8
          iiii
   9
          jjj
   10
          kkkk
   11
          1111
   12
          mmmm
   13
         nnnnn
   14
          jjjj
   15
          iiii
   16
          mmmm
   17
         nnnnn
   18
          0000
   19
          pppp
   Name: name, dtype: object
1 print(df.name,df.salary)
   0
          aaaa
          bbbb
   1
         ccccc
          dddd
   3
   4
          eeee
   5
          ffff
          gggg
          hhhh
   8
          iiii
          jjj
   9
   10
          kkkk
   11
          1111
   12
          mmmm
   13
         nnnnn
   14
          jjjj
   15
          iiii
   16
          mmmm
   17
         nnnnn
   18
          0000
   19
          pppp
   Name: name, dtype: object 0
                                    10000
   1
            8000
          120000
   3
           45000
          334567
           21234
   6
            2345
           23456
           7654
   9
         3456578
   10
           45678
   11
             345
   12
            9876
   13
           34567
   14
           87654
   15
           34567
   16
           1234
   17
           23456
   18
            5555
   19
            3455
   Name: salary, dtype: int64
```

1 df[['salary','name']]

	salary	name
0	10000	aaaa
1	8000	bbbb
2	120000	ccccc
3	45000	dddd
4	334567	eeee
5	21234	ffff
6	2345	9999
7	23456	hhhh
8	7654	iiii
9	3456578	jjj
10	45678	kkkk
11	345	IIII
12	9876	mmmm
13	34567	nnnnn
14	87654	زززز
15	34567	iiii
16	1234	mmmm
17	23456	nnnnn
18	5555	0000
19	3455	pppp

1 df.salary\*0.10

1000.0 0 800.0 1 12000.0 2 4500.0 33456.7 2123.4 6 234.5 2345.6 8 765.4 9 345657.8 10 4567.8 11 34.5 12 987.6 13 3456.7 14 8765.4 15 3456.7

```
16 123.4
17 2345.6
18 555.5
19 345.5
```

Name: salary, dtype: float64

1 df['tax']=df.salary\*0.10

1 df

	id	name	gender	salary	tax
0	1	aaaa	male	10000	1000.0
1	2	bbbb	female	8000	800.0
2	3	ccccc	male	120000	12000.0
3	4	dddd	male	45000	4500.0
4	5	eeee	female	334567	33456.7
5	6	ffff	female	21234	2123.4
6	7	9999	female	2345	234.5
7	8	hhhh	female	23456	2345.6
8	9	iiii	male	7654	765.4
9	10	jjj	male	3456578	345657.8
10	11	kkkk	male	45678	4567.8
11	12	IIII	male	345	34.5
12	13	mmmm	female	9876	987.6
13	14	nnnnn	male	34567	3456.7
14	15	jjjj	male	87654	8765.4
15	16	iiii	female	34567	3456.7
16	17	mmmm	female	1234	123.4
17	18	nnnnn	female	23456	2345.6
18	19	0000	female	5555	555.5
19	20	pppp	male	3455	345.5

1 df.loc[4]

id 5
name eeee
gender female
salary 334567
tax 33456.7
Name: 4, dtype: object

https://colab.research.google.com/drive/1kv2Ch7ggl1i3upjpJi7eR2Djz-DMhGz8#printMode=true

```
1 for i in range(0,len(df)):
     print(df.loc[i])
   id
                 1
   name
               aaaa
   gender
               male
   salary
              10000
   tax
             1000.0
   Name: 0, dtype: object
   id
                 2
   name
               bbbb
   gender
             female
   salary
               8000
   tax
              800.0
   Name: 1, dtype: object
   id
                   3
   name
               ccccc
                male
   gender
   salary
              120000
             12000.0
   tax
   Name: 2, dtype: object
   id
                 4
   name
               dddd
               male
   gender
   salary
              45000
             4500.0
   tax
   Name: 3, dtype: object
   id
                  5
                eeee
   name
   gender
              female
              334567
   salary
             33456.7
   tax
   Name: 4, dtype: object
   id
                 6
               ffff
   name
   gender
             female
              21234
   salary
             2123.4
   tax
   Name: 5, dtype: object
   id
                 7
   name
               gggg
   gender
             female
   salary
               2345
   tax
              234.5
   Name: 6, dtype: object
   id
                  8
   name
               hhhh
             female
   gender
   salary
              23456
             2345.6
   tax
   Name: 7, dtype: object
   id
              iiii
   name
   gender
              male
   salary
              7654
             765.4
   tax
   Name: 8, dtype: object
   id
                   10
   name
                  jjj
   gender
                male
   salary
              3456578
```

```
1 df.to_csv("final.csv")
```

1 df.head(10)#default 5 else n given

	id	name	gender	salary	tax
0	1	aaaa	male	10000	1000.0
1	2	bbbb	female	8000	800.0
2	3	ccccc	male	120000	12000.0
3	4	dddd	male	45000	4500.0
4	5	eeee	female	334567	33456.7
5	6	ffff	female	21234	2123.4
6	7	9999	female	2345	234.5
7	8	hhhh	female	23456	2345.6
8	9	iiii	male	7654	765.4
9	10	jjj	male	3456578	345657.8

## 1 df.tail(10)

id	name	gender	salary	tax
11	kkkk	male	45678	4567.8
12	IIII	male	345	34.5
13	mmmm	female	9876	987.6
14	nnnnn	male	34567	3456.7
15	زززز	male	87654	8765.4
16	iiii	female	34567	3456.7
17	mmmm	female	1234	123.4
18	nnnnn	female	23456	2345.6
19	0000	female	5555	555.5
20	pppp	male	3455	345.5
	11 12 13 14 15 16 17 18	11 kkkk 12 IIII 13 mmmm 14 nnnnn 15 jjjj 16 iiii 17 mmmm 18 nnnnn 19 oooo	11 kkkk male 12 IIII male 13 mmmm female 14 nnnnn male 15 jjjj male 16 iiii female 17 mmmm female 18 nnnnn female 19 oooo female	11         kkkk         male         45678           12         IIII         male         345           13         mmmm         female         9876           14         nnnnn         male         34567           15         jjjj         male         87654           16         iiii         female         34567           17         mmmm         female         1234           18         nnnnn         female         23456           19         oooo         female         5555

1 df[4:15]

tax	salary	gender	name	id		
33456.7	334567	female	eeee	5	4	
2123.4	21234	female	ffff	6	5	
234.5	2345	female	9999	7	6	
2345.6	23456	female	hhhh	8	7	
765.4	7654	male	iiii	9	8	
345657.8	3456578	male	jjj	10	9	
4567.8	45678	male	kkkk	11	10	
					1 df	

	id	name	gender	salary	tax
0	1	aaaa	male	10000	1000.0
1	2	bbbb	female	8000	800.0
2	3	cccc	male	120000	12000.0
3	4	dddd	male	45000	4500.0
4	5	eeee	female	334567	33456.7
5	6	ffff	female	21234	2123.4
6	7	9999	female	2345	234.5
7	8	hhhh	female	23456	2345.6
8	9	iiii	male	7654	765.4
9	10	jjj	male	3456578	345657.8
10	11	kkkk	male	45678	4567.8
11	12	IIII	male	345	34.5
12	13	mmmm	female	9876	987.6
13	14	nnnnn	male	34567	3456.7
14	15	زززز	male	87654	8765.4
15	16	iiii	female	34567	3456.7
16	17	mmmm	female	1234	123.4
17	18	nnnnn	female	23456	2345.6
18	19	0000	female	5555	555.5
19	20	pppp	male	3455	345.5

<sup>1</sup> df['gender']=="male"#only gives True False--filter

<sup>0</sup> True

<sup>1</sup> False

```
True
3
      True
     False
4
     False
6
     False
     False
      True
9
     False
10
      True
11
      True
12
     False
13
      True
14
      True
15
     False
16
     False
17
     False
18
     False
19
      True
```

Name: gender, dtype: bool

```
1 df[df['gender']=="male"]
```

```
tax
   id name
             gender salary
                              1000.0
   1
        aaaa
               male
                      10000
    3
       ccccc
               male 120000
                             12000.0
        dddd
               male
                      45000
                              4500.0
          iiii
               male
                       7654
                               765.4
                              4567.8
        kkkk
               male
                      45678
                        345
                                34.5
          Ш
11 12
               male
                      34567
                             3456.7
13 14 nnnnn
               male
                      87654
                              8765.4
               male
19 20
                       3455
                               345.5
       pppp
               male
```

```
1 df1=df[df['gender']=="male"]
2 df1.to_csv("Male.csv")
3 df2=df[df['gender']=="female"]
4 df2.to_csv("Female.csv")
```

1 df[(df['gender']=="female")&(df['salary']>=30000)]

```
        id
        name
        gender
        salary
        tax

        4
        5
        eeee
        female
        334567
        33456.7

        15
        16
        iiii
        female
        34567
        3456.7
```

```
1 max(df.salary)
```

3456578

```
1 avg=sum(df.salary)/len(df)
2 print("Average salary for employee is:",avg)
3 df[df['salary']>avg]

Average salary for employee is: 213761.05

id name gender salary tax

4 5 eeee female 3456578 345657.8

1 df.sort_values(by="salary")[-2:-1]

id name gender salary tax

4 5 eeee female 334567 33456.7
```

id name gender salary tax

1 df.drop(labels=["tax","salary"],axis=1)

	id	name	gender
0	1	aaaa	male
1	2	bbbb	female
2	3	ccccc	male
3	4	dddd	male
4	5	eeee	female
5	6	ffff	female
6	7	9999	female
7	8	hhhh	female
8	9	iiii	male
9	10	jjj	male
10	11	kkkk	male
11	12	IIII	male
12	13	mmmm	female
13	14	nnnnn	male
14	15	jjjj	male
15	16	iiii	female
16	17	mmmm	female
17	18	nnnnn	female
18	19	0000	female
19	20	pppp	male

1 df

	id	name	gender	salary	tax
0	1	aaaa	male	10000	1000.0
1	2	bbbb	female	8000	800.0
2	3	ccccc	male	120000	12000.0
3	4	dddd	male	45000	4500.0
4	5	eeee	female	334567	33456.7
5	6	ffff	female	21234	2123.4
6	7	9999	female	2345	234.5
7	8	hhhh	female	23456	2345.6
8	9	iiii	male	7654	765.4
9	10	jjj	male	3456578	345657.8
10	11	kkkk	male	45678	4567.8
11	12	IIII	male	345	34.5

1 df.drop([1,5,10])

	id	name	gender	salary	tax
0	1	aaaa	male	10000	1000.0
2	3	ccccc	male	120000	12000.0
3	4	dddd	male	45000	4500.0
4	5	eeee	female	334567	33456.7
6	7	9999	female	2345	234.5
7	8	hhhh	female	23456	2345.6
8	9	iiii	male	7654	765.4
9	10	jjj	male	3456578	345657.8
11	12	IIII	male	345	34.5
12	13	mmmm	female	9876	987.6
13	14	nnnnn	male	34567	3456.7
14	15	زززز	male	87654	8765.4
15	16	iiii	female	34567	3456.7
16	17	mmmm	female	1234	123.4
17	18	nnnnn	female	23456	2345.6
18	19	0000	female	5555	555.5
19	20	pppp	male	3455	345.5

1 df.drop("gender",axis=1)

	id	name	salary	tax
0	1	aaaa	10000	1000.0
1	2	bbbb	8000	800.0
2	3	ccccc	120000	12000.0
3	4	dddd	45000	4500.0
4	5	eeee	334567	33456.7
5	6	ffff	21234	2123.4
6	7	9999	2345	234.5
7	8	hhhh	23456	2345.6
8	9	iiii	7654	765.4
9	10	jjj	3456578	345657.8
10	11	kkkk	45678	4567.8
11	12	IIII	345	34.5
12	13	mmmm	9876	987.6
13	14	nnnnn	34567	3456.7
14	15	زززز	87654	8765.4
15	16	iiii	34567	3456.7
16	17	mmmm	1234	123.4
17	18	nnnnn	23456	2345.6
18	19	0000	5555	555.5
19	20	pppp	3455	345.5

1 df.drop(df[df['gender']=="female"].index)

		id	name	gender	salary
	n	1	аааа	male	10000
1					
	3	4	dddd	male	45000
	8	9	iiii	male	7654
	9	10	jjj	male	3456578
	10	11	kkkk	male	45678
	11	12	IIII	male	345
	13	14	nnnnn	male	34567
	14	15	زززز	male	87654
	19	20	pppp	male	3455