

```
In [1]: import pandas as pd
import numpy as np
from numpy import cov
from scipy.stats import pearsonr
from scipy.stats import spearmanr
```

```
In [2]: df=pd.read_csv("4_drug200.csv")
df
```

200 rows × 6 columns

```
In [3]: df.sum()
```

mean

```
In [4]: df.mean()
```

```
Out[4]: Age      44.315000  
Na_to_K    16.084485  
dtype: float64
```

median

```
In [5]: df.median()
```

```
Out[5]: Age      45.00000  
Na_to_K    13.9365  
dtype: float64
```

mode

```
In [6]: df.mode()
```

```
Out[6]:
```

	Age	Sex	BP	Cholesterol	Na_to_K	Drug
0	47.0	M	HIGH	HIGH	12.006	drugY
1	NaN	NaN	NaN	NaN	18.295	NaN

describe

```
In [7]: df.describe()
```

```
Out[7]:
```

	Age	Na_to_K
count	200.000000	200.000000
mean	44.315000	16.084485
std	16.544315	7.223956
min	15.000000	6.269000
25%	31.000000	10.445500
50%	45.000000	13.936500
75%	58.000000	19.380000
max	74.000000	38.247000

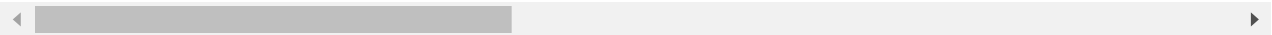
cumsum

```
In [8]: df.cumsum()
```

Out[8]:

	Age	Sex
0	23	F
1	70	FM
2	117	FMM
3	145	FMMF
4	206	FMMFF
...
195	8732	FMMFFFFMMMFFMFFFMMMFMFFFMFMMFMMMMFMFFMMFF... HIGHLOWLOWNORMALLOW
196	8748	FMMFFFFMMMFFMFFFMMMFMFFFMFMMFMMMMFMFFMMFF... HIGHLOWLOWNORMALLOW
197	8800	FMMFFFFMMMFFMFFFMMMFMFFFMFMMFMMMMFMFFMMFF... HIGHLOWLOWNORMALLOW
198	8823	FMMFFFFMMMFFMFFFMMMFMFFFMFMMFMMMMFMFFMMFF... HIGHLOWLOWNORMALLOW
199	8863	FMMFFFFMMMFFMFFFMMMFMFFFMFMMFMMMMFMFFMMFF... HIGHLOWLOWNORMALLOW

200 rows × 6 columns



count

In [9]:

df.count()

Out[9]:

Age200
Sex200
BP200
Cholesterol200
Na_to_K200
Drug200
dtype: int64

min

In [10]:

df.min()

Out[10]:

Age15
SexF
BPHIGH
CholesterolHIGH
Na_to_K6.269
DrugdrugA
dtype: object

max

In [11]:

df.max()

```
Out[11]: Age          74  
        Sex          M  
        BP          NORMAL  
        Cholesterol  NORMAL  
        Na_to_K      38.247  
        Drug         drugY  
        dtype: object
```

covariance

```
In [12]: cov(df["Age"],df["Na_to_K"])
```

```
Out[12]: array([[273.71434673, -7.54375153],  
                [-7.54375153, 52.18553348]])
```

correlation

```
In [13]: spearmanr(df["Age"],df["Na_to_K"])
```

```
Out[13]: SpearmanrResult(correlation=-0.047273882688479915, pvalue=0.5062200581387418)
```

```
In [14]: pearsonr(df["Age"],df["Na_to_K"])
```

```
Out[14]: (-0.06311949726772592, 0.3745756399034559)
```