```
In [4]:
        import numpy as np
        import pandas as pd
In [5]:
```

# **Pre-processing**

In [6]: data=pd.read\_csv(r"C:\Users\user\Downloads\3\_Fitness-1.csv") data

#### Out[6]:

	Row Labels	Sum of Jan	Sum of Feb	Sum of Mar	Sum of Total Sales
0	Α	5.62%	7.73%	6.16%	75
1	В	4.21%	17.27%	19.21%	160
2	С	9.83%	11.60%	5.17%	101
3	D	2.81%	21.91%	7.88%	127
4	E	25.28%	10.57%	11.82%	179
5	F	8.15%	16.24%	18.47%	167
6	G	18.54%	8.76%	17.49%	171
7	Н	25.56%	5.93%	13.79%	170
8	Grand Total	100.00%	100.00%	100.00%	1150

In [7]: | data.sum()

Out[7]: Row Labels ABCDEFGHGrand Total Sum of Jan 5.62%4.21%9.83%2.81%25.28%8.15%18.54%25.56%100... Sum of Feb 7.73%17.27%11.60%21.91%10.57%16.24%8.76%5.93%1... Sum of Mar 6.16%19.21%5.17%7.88%11.82%18.47%17.49%13.79%1... Sum of Total Sales 2300

dtype: object

Sum of Jan

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

#### Out[8]:

0	А	5.62%	
1	AB	5.62%4.21%	
2	ABC	5.62%4.21%9.83%	
3	ABCD	5.62%4.21%9.83%2.81%	
4	ABCDE	5.62%4.21%9.83%2.81%25.28%	7
5	ABCDEF	5.62%4.21%9.83%2.81%25.28%8.15%	7.73%17
6	ABCDEFG	5.62%4.21%9.83%2.81%25.28%8.15%18.54%	7.73%17.27% <sup>-</sup>
7	ABCDEFGH	5.62%4.21%9.83%2.81%25.28%8.15%18.54%25.56%	7.73%17.27%11.60%
8	ABCDEFGHGrand Total	5.62%4.21%9.83%2.81%25.28%8.15%18.54%25.56%100	7.73%17.27%11.60%21

## In [7]: data.describe()

### Out[7]:

	Sum of Total Sales
count	9.000000
mean	255.555556
std	337.332963
min	75.000000
25%	127.000000
50%	167.000000
75%	171.000000
max	1150.000000

**Row Labels** 

#### In [9]: data.max()

Out[9]: Row Labels Н Sum of Jan 9.83% Sum of Feb 8.76% Sum of Mar 7.88% Sum of Total Sales 1150

dtype: object

```
In [10]: data.min()
Out[10]: Row Labels
                                          Α
          Sum of Jan
                                   100.00%
          Sum of Feb
                                    10.57%
          Sum of Mar
                                   100.00%
          Sum of Total Sales
                                        75
          dtype: object
In [11]: | data.mean()
Out[11]: Sum of Total Sales
                                   255.55556
          dtype: float64
In [12]: data.median()
Out[12]: Sum of Total Sales
                                   167.0
          dtype: float64
In [13]: | data.mode()
Out[13]:
              Row Labels Sum of Jan Sum of Feb Sum of Mar Sum of Total Sales
           0
                            100.00%
                                        10.57%
                                                   100.00%
                                                                         75
                       Α
           1
                       В
                             18.54%
                                       100.00%
                                                    11.82%
                                                                        101
           2
                      С
                              2.81%
                                        11.60%
                                                    13.79%
                                                                        127
                      D
                             25.28%
                                                                        160
                                        16.24%
                                                    17.49%
                      Ε
                             25.56%
                                        17.27%
                                                    18.47%
                                                                        167
                       F
           5
                              4.21%
                                        21.91%
                                                    19.21%
                                                                        170
                      G
                              5.62%
                                         5.93%
                                                     5.17%
                                                                        171
               Grand Total
                              8.15%
                                         7.73%
                                                     6.16%
                                                                        179
                              9.83%
                                                     7.88%
           8
                      Н
                                         8.76%
                                                                       1150
In [14]: data.cov()
Out[14]:
                             Sum of Total Sales
           Sum of Total Sales
                                113793.527778
          data.corr()
In [15]:
Out[15]:
                             Sum of Total Sales
           Sum of Total Sales
                                          1.0
```