1.IMPORTING LIBRARIES

In [1]:
```python
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
```

2.Importing dataset

In [2]:
```python
data=pd.read_csv(r"C:\Users\user\Downloads\3_Fitness-1 - 3_Fitness-1.csv")
data
```

Out[2]:

	Row Labels	Sum of Jan	Sum of Feb	Sum of Mar	Sum of Total Sales
0	A	5.62%	7.73%	6.16%	75
1	B	4.21%	17.27%	19.21%	160
2	C	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	H	25.56%	5.93%	13.79%	170
8	Grand Total	100.00%	100.00%	100.00%	1150

3.head

In [3]:
```python
data.head(8)
```

Out[3]:

	Row Labels	Sum of Jan	Sum of Feb	Sum of Mar	Sum of Total Sales
0	A	5.62%	7.73%	6.16%	75
1	B	4.21%	17.27%	19.21%	160
2	C	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	H	25.56%	5.93%	13.79%	170

4.tail

In [4]:
```
data.tail(7)
```

Out[4]:

	Row Labels	Sum of Jan	Sum of Feb	Sum of Mar	Sum of Total Sales
2	C	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	H	25.56%	5.93%	13.79%	170
8	Grand Total	100.00%	100.00%	100.00%	1150

5.describe()

In [5]:
```
data.describe()
```

Out[5]:

	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

6.shape()

In [6]:
```
np.shape(data)
```

Out[6]: (9, 5)

7.size()

In [7]:
```
np.size(data)
```

Out[7]: 45

8.isna()

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

Out[8]:

	Row Labels	Sum of Jan	Sum of Feb	Sum of Mar	Sum of Total Sales
0	False	False	False	False	False
1	False	False	False	False	False
2	False	False	False	False	False
3	False	False	False	False	False
4	False	False	False	False	False
5	False	False	False	False	False
6	False	False	False	False	False
7	False	False	False	False	False
8	False	False	False	False	False

9.dropna

In [9]:
```
data.dropna()
```

Out[9]:

	Row Labels	Sum of Jan	Sum of Feb	Sum of Mar	Sum of Total Sales
0	A	5.62%	7.73%	6.16%	75
1	B	4.21%	17.27%	19.21%	160
2	C	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	H	25.56%	5.93%	13.79%	170
8	Grand Total	100.00%	100.00%	100.00%	1150

10.selecting specific column

In [10]:
```
da=data[["Sum of Jan","Sum of Mar"]]
da
```

Out[10]:

	Sum of Jan	Sum of Mar
0	5.62%	6.16%
1	4.21%	19.21%
2	9.83%	5.17%
3	2.81%	7.88%
4	25.28%	11.82%
5	8.15%	18.47%
6	18.54%	17.49%
7	25.56%	13.79%
8	100.00%	100.00%

11.line plot

In [11]:
```python
data.plot.line()
```

Out[11]: <AxesSubplot:>
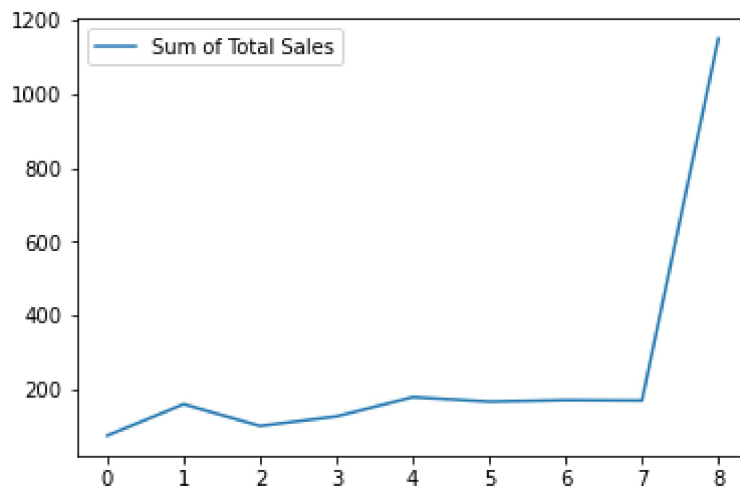
12.bar plot

In [12]:
```python
data.plot.bar()
```

Out[12]: <AxesSubplot:>
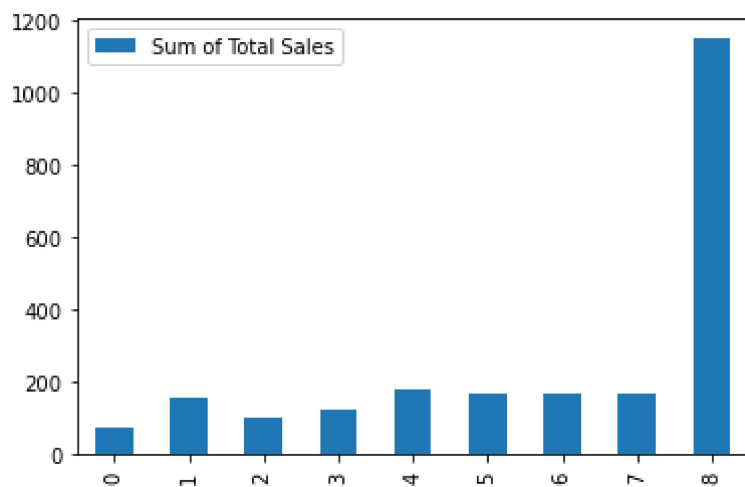
13.area plot

In [13]:
```python
data.plot.area()
```

Out[13]: `<AxesSubplot:>`
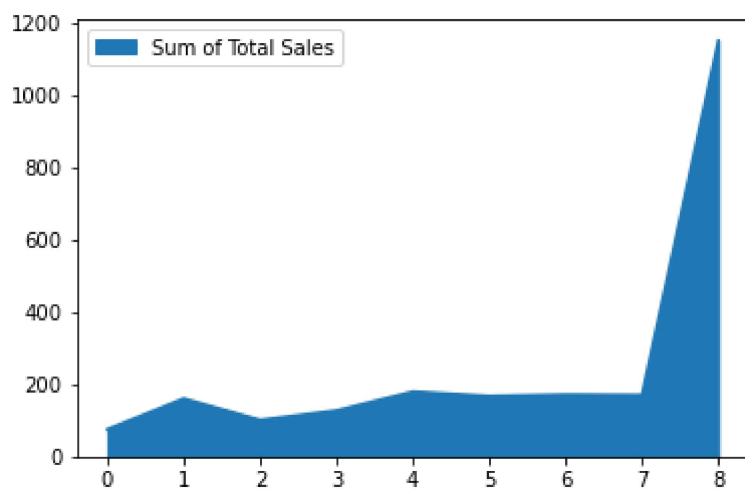
14.box plot

In [14]:
```python
data.plot.box()
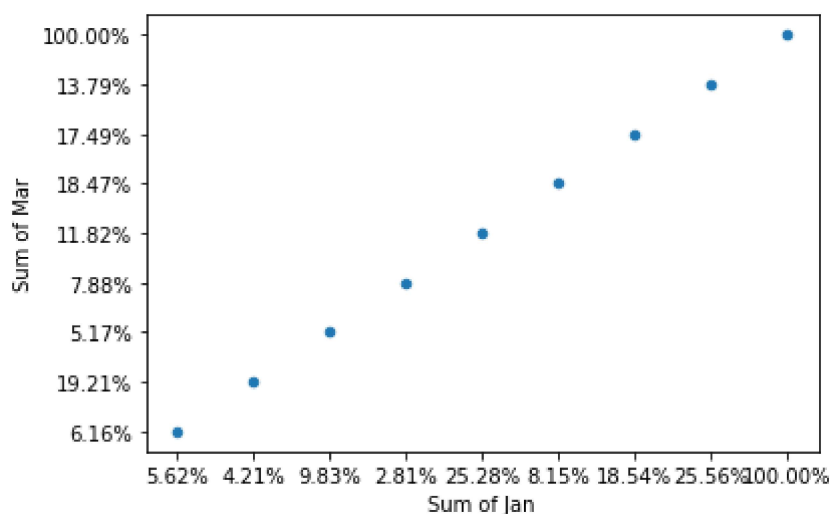```

Out[14]: `<AxesSubplot:>`
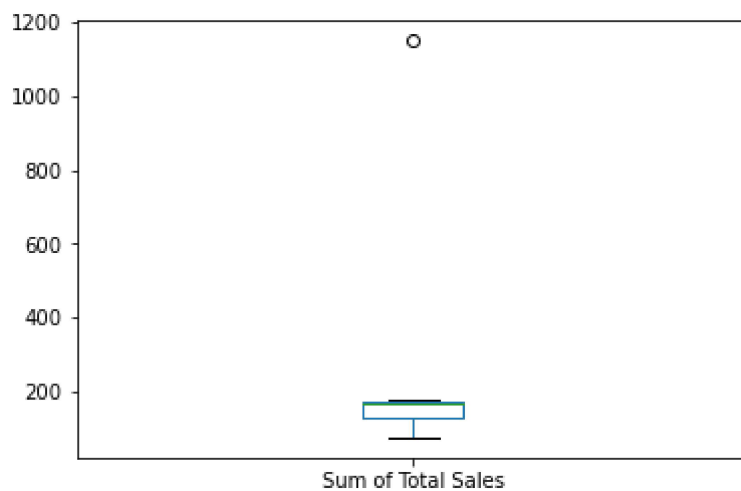
# 15.scatter plot

In [15]:
```python
data.plot.scatter("Sum of Jan","Sum of Mar")
```

Out[15]: <AxesSubplot:xlabel='Sum of Jan', ylabel='Sum of Mar'>

16.pie plot

In [16]:
```python
data.plot.pie(x="Row Labels",y="Sum of Total Sales")
```

Out[16]: <AxesSubplot:ylabel='Sum of Total Sales'>
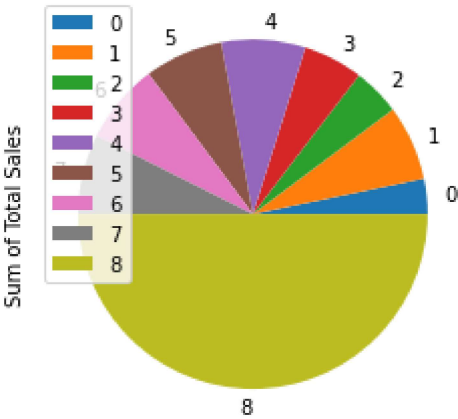
17.histogram

In [17]:
```python
data.plot.hist()
```

Out[17]: `<AxesSubplot:ylabel='Frequency'>`

sum
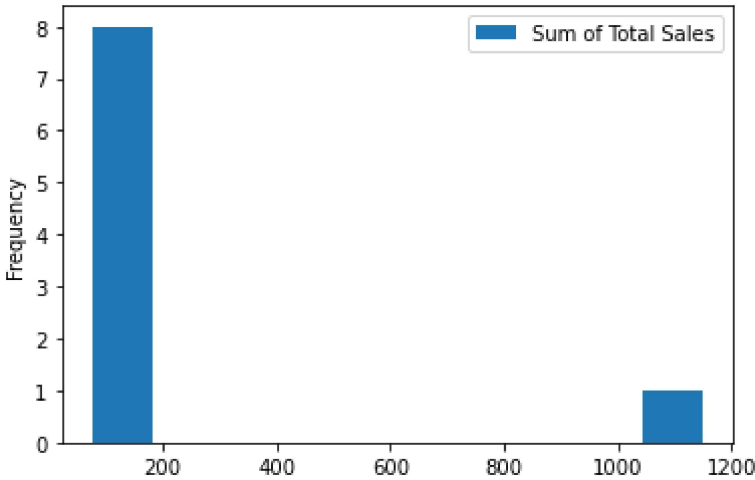
In [18]:
```python
print(data.sum())
```

```
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
```

mean

In [19]:
```python
print(data.mean())
```

```
Sum of Total Sales     255.555556
dtype: float64
```

median

In [20]:
```python
print(data.median())
```

```
Sum of Total Sales     167.0
dtype: float64
```

mode

In [21]:
```python
print(data.mode())
```

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

min

In [22]:
```python
print(data.min())
```

```
Row Labels                A
Sum of Jan          100.00%
Sum of Feb           10.57%
Sum of Mar          100.00%
Sum of Total Sales       75
dtype: object
```

max

In [23]:
```python
print(data.max())
```

```
Row Labels                H
Sum of Jan            9.83%
Sum of Feb            8.76%
Sum of Mar            7.88%
Sum of Total Sales     1150
dtype: object
```

count

In [24]:
```python
print(data.count())
```

```
Row Labels            9
Sum of Jan            9
Sum of Feb            9
Sum of Mar            9
Sum of Total Sales    9
dtype: int64
```

cumsum

In [25]:
```python
print(data.cumsum())
```

```
         Row Labels                                          Sum of Jan  \
0                 A                                               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%
5            ABCDEF                     5.62%4.21%9.83%2.81%25.28%8.15%
6           ABCDEFG                5.62%4.21%9.83%2.81%25.28%8.15%18.54%
7          ABCDEFGH          5.62%4.21%9.83%2.81%25.28%8.15%18.54%25.56%
8  ABCDEFGHGrand Total   5.62%4.21%9.83%2.81%25.28%8.15%18.54%25.56%100...

                                               Sum of Feb  \
0                                                   7.73%
1                                              7.73%17.27%
2                                        7.73%17.27%11.60%
3                                  7.73%17.27%11.60%21.91%
4                            7.73%17.27%11.60%21.91%10.57%
5                      7.73%17.27%11.60%21.91%10.57%16.24%
6                 7.73%17.27%11.60%21.91%10.57%16.24%8.76%
7           7.73%17.27%11.60%21.91%10.57%16.24%8.76%5.93%
8  7.73%17.27%11.60%21.91%10.57%16.24%8.76%5.93%1...

                                 Sum of Mar  Sum of Total Sales
0                                     6.16%                  75
1                               6.16%19.21%                 235
2                         6.16%19.21%5.17%                 336
3                    6.16%19.21%5.17%7.88%                 463
4              6.16%19.21%5.17%7.88%11.82%                 642
5        6.16%19.21%5.17%7.88%11.82%18.47%                 809
6   6.16%19.21%5.17%7.88%11.82%18.47%17.49%                 980
7  6.16%19.21%5.17%7.88%11.82%18.47%17.49%13.79%               1150
8  6.16%19.21%5.17%7.88%11.82%18.47%17.49%13.79%1...            2300
```

standard deviation

In [26]:
```python
print(data.std())
```

```
Sum of Total Sales    337.332963
dtype: float64
```

describe

In [27]:
```python
print(data.describe())
```

```
        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
```

variance

In [28]:
```python
print(data.var())
```

```
Sum of Total Sales    113793.527778
dtype: float64
```

covariance

In [29]:
```python
print(data.cov())
```

```
                    Sum of Total Sales
Sum of Total Sales       113793.527778
```

correlation

In [31]:
```python
from scipy.stats import spearmanr
from scipy.stats import pearsonr
```

pearson correlation

In [33]:
```python
print(pearsonr(data["Sum of Total Sales"],data["Sum of Total Sales"]))
```

```
(1.0, 0.0)
```

spearman correlation

In [34]:
```python
print(spearmanr(data["Sum of Total Sales"],data["Sum of Total Sales"]))
```

```
SpearmanrResult(correlation=1.0, pvalue=0.0)
```