Basic Analysis using Numpy and Pandas

Fitness Dataset

To import library

In [1]:
```
import numpy as np
```

In [2]:
```
import pandas as pd
```

To import dataset

In [3]:
```
data=pd.read_csv(r"C:\Users\user\Downloads\fitness.csv")
data
```

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
8	Grand Total	100.00%	100.00%	100.00%	1150

To get Top 20 record

In [4]:
```
data.head(20)
```

Out[4]:

	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

To get last 20 record

In [5]:
```
data.tail(20)
```

Out[5]:

	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

Statistical Analysis

In [6]:
```
data.describe()
```

Out[6]:

	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

To get row and column

In [7]:
```
print(np.shape(data))
```

```
(9, 5)
```

Find Number of Elements

In [8]:
```
np.size(data)
```

Out[8]: 45

Find Missing values

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

Out[9]:

	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

To drop the missing values

In [10]:
```
data.dropna(axis=1,how="any")
```

Out[10]:

	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

In [11]:
```
data["Sum of Total Sales"]
```

Out[11]:
```
0      75
1     160
2     101
3     127
4     179
5     167
6     171
7     170
8    1150
Name: Sum of Total Sales, dtype: int64
```

In [12]:
```
data1=data[['Sum of Mar','Sum of Total Sales']]
data1
```

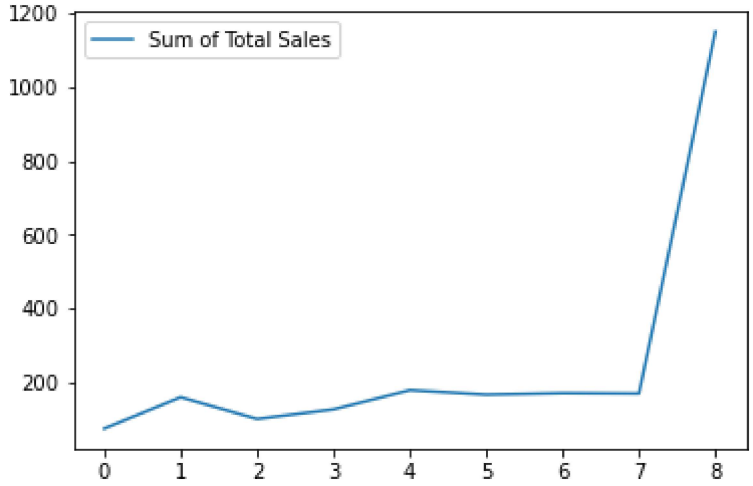
Out[12]:

	Sum of Mar	Sum of Total Sales
0	6.16%	75
1	19.21%	160
2	5.17%	101
3	7.88%	127
4	11.82%	179
5	18.47%	167
6	17.49%	171
7	13.79%	170
8	100.00%	1150

In [13]:
```
import matplotlib as mp
```

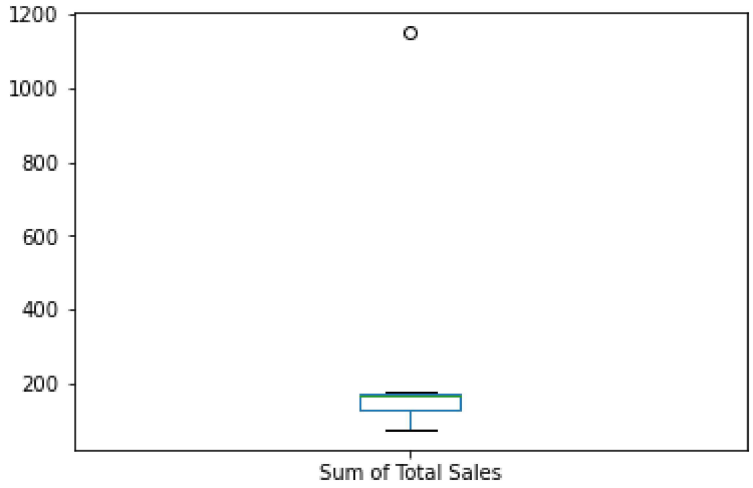
In [14]:
```
data1.plot.line()
```

Out[14]: <AxesSubplot:>



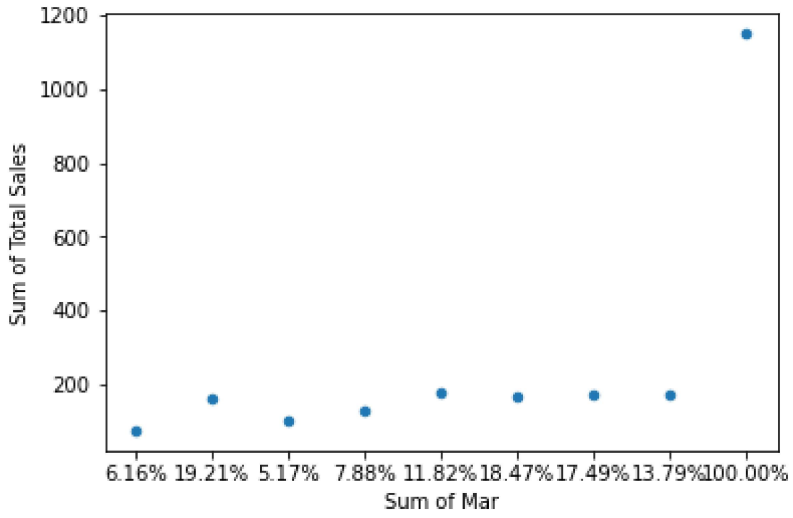
In [15]:
```
data1.plot.box()
```

Out[15]: <AxesSubplot:>



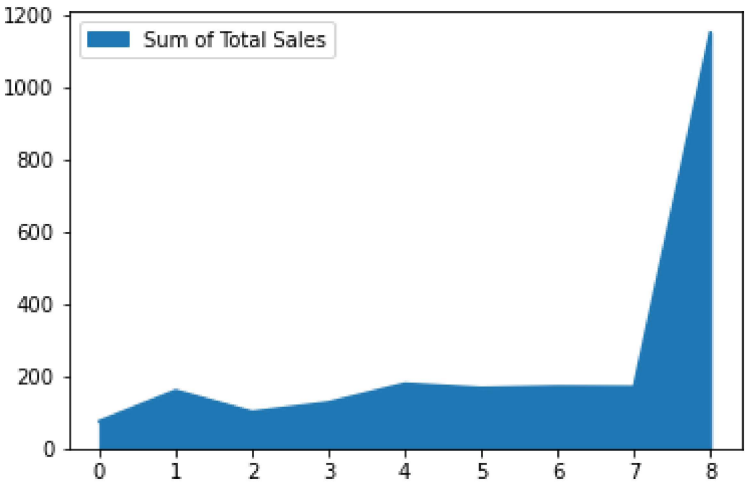
In [16]:
```
data1.plot.scatter(x='Sum of Mar',y='Sum of Total Sales')
```

Out[16]:
```
<AxesSubplot:xlabel='Sum of Mar', ylabel='Sum of Total Sales'>
```



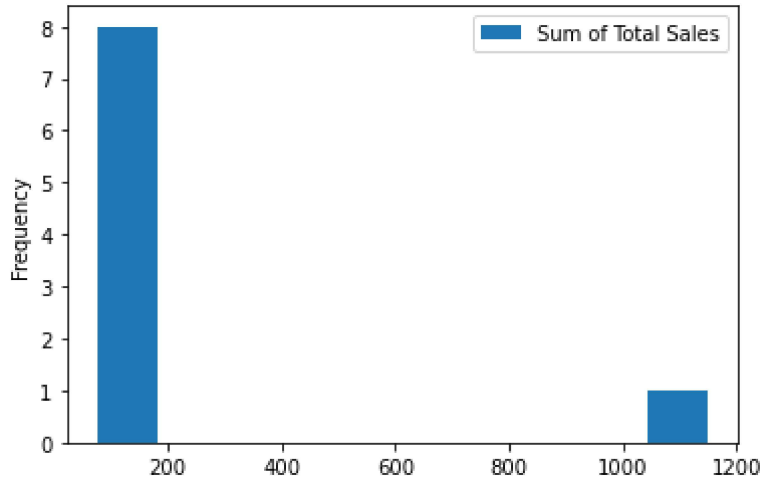
In [17]:
```
data1.plot.area()
```

Out[17]:
```
<AxesSubplot:>
```



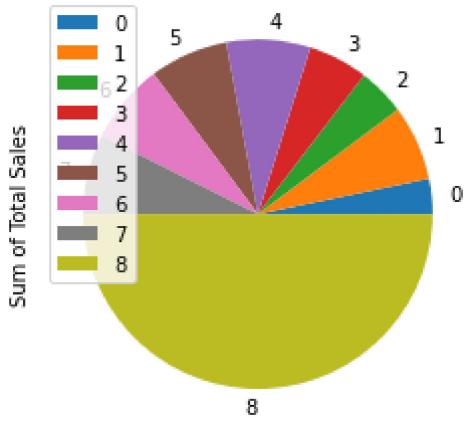
In [18]:
```
data1.plot.hist()
```

Out[18]: <AxesSubplot:ylabel='Frequency'>



In [19]:
```
data1.plot.pie(y="Sum of Total Sales")
```

Out[19]: <AxesSubplot:ylabel='Sum of Total Sales'>



In [ ]:
```

```