

data visualization

(a) Import library

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

b) Import dataset

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

```
In [3]: 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

c) head

```
In [13]: data.head(5)
```

Out[13]:

	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

d) tail

In [14]: `data.tail(5)`

Out[14]:

	Row Labels	Sum of Jan	Sum of Feb	Sum of Mar	Sum of Total Sales
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

e) describe

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

f) shape

In [7]: `data.shape`

Out[7]: (9, 5)

g) size

In [8]: `data.size`

Out[8]: 45

h) 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

In [29]: `data.isnull().sum()`

Out[29]:

Row Labels	0
Sum of Jan	0
Sum of Feb	0
Sum of Mar	0
Sum of Total Sales	0
dtype: int64	

In []:

i) fill/drop

In [11]: `data.dropna(axis=1, how='any')`

Out[11]:

	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

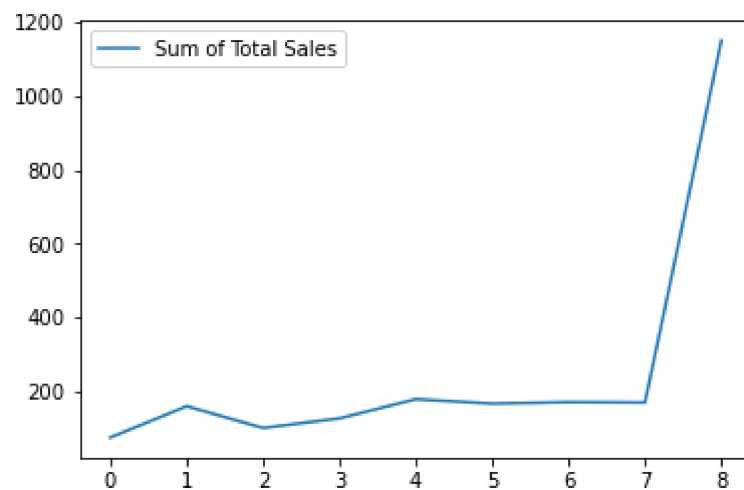
```
In [19]: data1 = data[['Sum of Jan', 'Sum of Total Sales']]  
data1
```

Out[19]:

	Sum of Jan	Sum of Total Sales
0	5.62%	75
1	4.21%	160
2	9.83%	101
3	2.81%	127
4	25.28%	179
5	8.15%	167
6	18.54%	171
7	25.56%	170
8	100.00%	1150

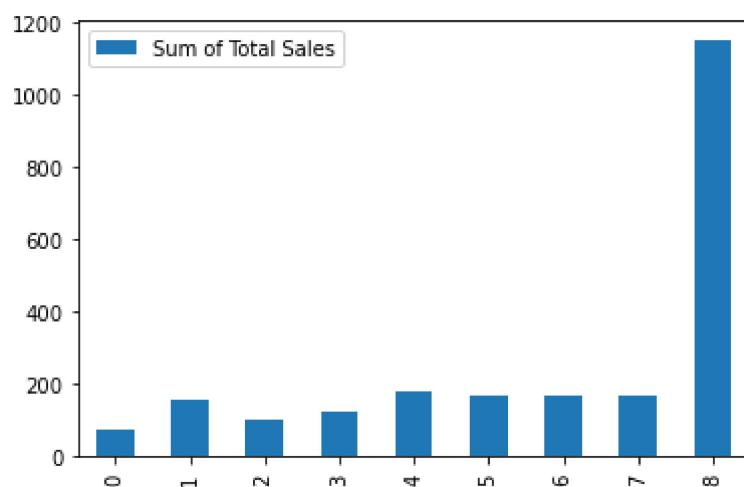
```
In [20]: data1.plot.line()
```

Out[20]: <AxesSubplot:>



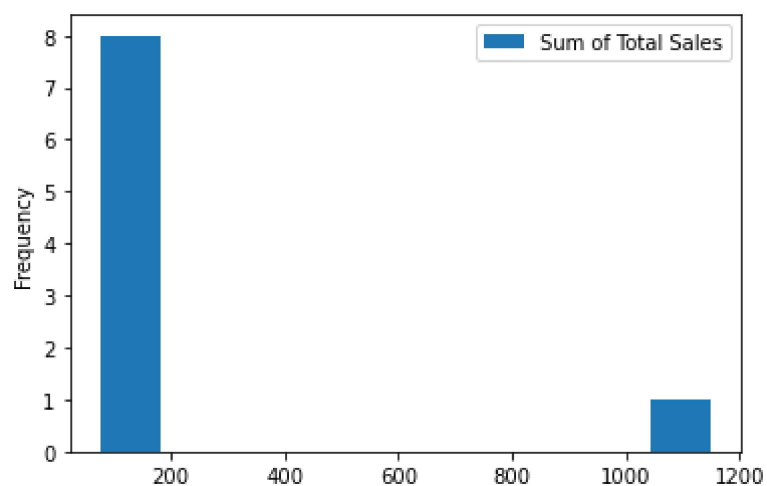
```
In [21]: data1.plot.bar()
```

```
Out[21]: <AxesSubplot:>
```



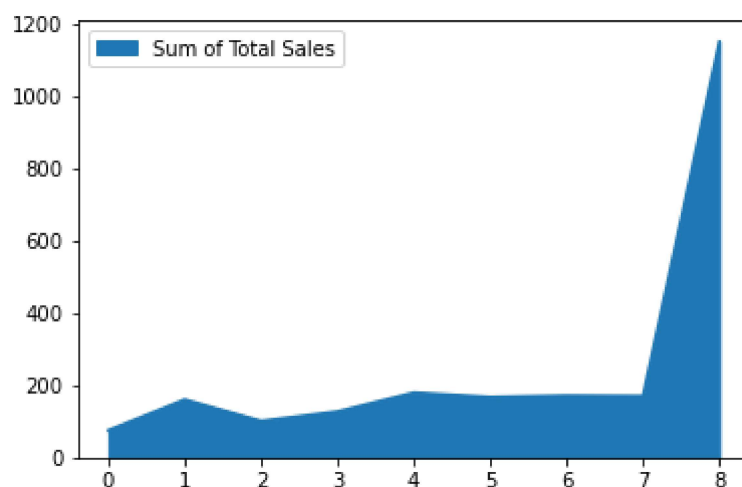
```
In [22]: data1.plot.hist()
```

```
Out[22]: <AxesSubplot:ylabel='Frequency'>
```



```
In [23]: data1.plot.area()
```

```
Out[23]: <AxesSubplot:>
```

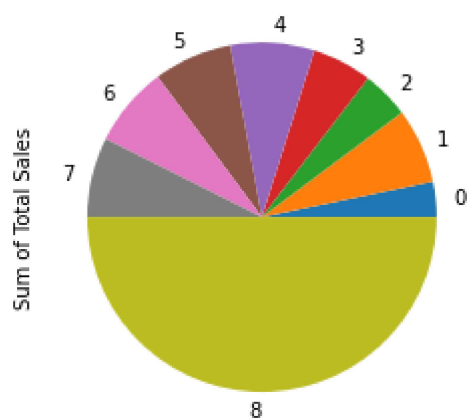


```
In [25]: data2 = data1['Sum of Total Sales']  
data2
```

```
Out[25]: 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 [26]: data2.plot.pie()
```

```
Out[26]: <AxesSubplot:ylabel='Sum of Total Sales'>
```



```
In [ ]:
```

