In [3]:
```
#import libraries
import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
```

In [5]:
```
df=pd.read_excel(r"D:\Seema\power bi\Dataset\product (1).xlsx")
df
```

Out[5]:

	Row ID	Order ID	Order Date	Ship Date	Ship Mode	Customer ID	Customer Name	Segment	Country/Region
0	1	CA-2018-152156	2018-11-08	2018-11-11	Second Class	CG-12520	Claire Gute	Consumer	United States
1	2	CA-2018-152156	2018-11-08	2018-11-11	Second Class	CG-12520	Claire Gute	Consumer	United States
2	3	CA-2018-138688	2018-06-12	2018-06-16	Second Class	DV-13045	Darrin Van Huff	Corporate	United States
3	4	US-2017-108966	2017-10-11	2017-10-18	Standard Class	SO-20335	Sean O'Donnell	Consumer	United States
4	5	US-2017-108966	2017-10-11	2017-10-18	Standard Class	SO-20335	Sean O'Donnell	Consumer	United States
...	...	...	...	...	...	...	...	...	...
9989	9990	CA-2016-110422	2016-01-21	2016-01-23	Second Class	TB-21400	Tom Boeckenhauer	Consumer	United States
9990	9991	CA-2019-121258	2019-02-26	2019-03-03	Standard Class	DB-13060	Dave Brooks	Consumer	United States
9991	9992	CA-2019-121258	2019-02-26	2019-03-03	Standard Class	DB-13060	Dave Brooks	Consumer	United States
9992	9993	CA-2019-121258	2019-02-26	2019-03-03	Standard Class	DB-13060	Dave Brooks	Consumer	United States
9993	9994	CA-2019-119914	2019-05-04	2019-05-09	Second Class	CC-12220	Chris Cortes	Consumer	United States

9994 rows × 21 columns

In [6]:
```
data=df[['Order Date','Sales']]
data
```

Out[6]:

	Order Date	Sales
0	2018-11-08	261.9600
1	2018-11-08	731.9400
2	2018-06-12	14.6200
3	2017-10-11	957.5775
4	2017-10-11	22.3680
...	...	...
9989	2016-01-21	25.2480
9990	2019-02-26	91.9600
9991	2019-02-26	258.5760
9992	2019-02-26	29.6000
9993	2019-05-04	243.1600

9994 rows × 2 columns

In [7]:
```
#import calender
data['Month']=pd.DatetimeIndex(data['Order Date']).month
data
```

```
C:\Users\PC\AppData\Local\Temp\ipykernel_2516\74041502.py:2: SettingWithCopyW
arning:
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row_indexer,col_indexer] = value instead

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/s
table/user_guide/indexing.html#returning-a-view-versus-a-copy (https://panda
s.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-ver
sus-a-copy)
  data['Month']=pd.DatetimeIndex(data['Order Date']).month
```

Out[7]:

	Order Date	Sales	Month
0	2018-11-08	261.9600	11
1	2018-11-08	731.9400	11
2	2018-06-12	14.6200	6
3	2017-10-11	957.5775	10
4	2017-10-11	22.3680	10
...	...	...	...
9989	2016-01-21	25.2480	1
9990	2019-02-26	91.9600	2
9991	2019-02-26	258.5760	2
9992	2019-02-26	29.6000	2
9993	2019-05-04	243.1600	5

9994 rows × 3 columns

In [8]:
```
data['Month'].replace(1,"Jan",inplace=True)
data['Month'].replace(2,"Feb",inplace=True)
data['Month'].replace(3,"Mar",inplace=True)
data['Month'].replace(4,"Apr",inplace=True)
data['Month'].replace(5,"May",inplace=True)
data['Month'].replace(6,"June",inplace=True)
data['Month'].replace(7,"July",inplace=True)
data['Month'].replace(8,"Aug",inplace=True)
data['Month'].replace(9,"Sep",inplace=True)
data['Month'].replace(10,"Oct",inplace=True)
data['Month'].replace(11,"Nov",inplace=True)
data['Month'].replace(12,"Dec",inplace=True)
```

```
C:\Users\PC\AppData\Local\Temp\ipykernel_2516\332633854.py:1: SettingWithCopy
Warning:
A value is trying to be set on a copy of a slice from a DataFrame

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/s
table/user_guide/indexing.html#returning-a-view-versus-a-copy (https://panda
s.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-ver
sus-a-copy)
  data['Month'].replace(1,"Jan",inplace=True)
C:\Users\PC\AppData\Local\Temp\ipykernel_2516\332633854.py:2: SettingWithCopy
Warning:
A value is trying to be set on a copy of a slice from a DataFrame

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/s
table/user_guide/indexing.html#returning-a-view-versus-a-copy (https://panda
s.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-ver
sus-a-copy)
  data['Month'].replace(2,"Feb",inplace=True)
C:\Users\PC\AppData\Local\Temp\ipykernel_2516\332633854.py:3: SettingWithCopy
Warning:
A value is trying to be set on a copy of a slice from a DataFrame

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/s
table/user_guide/indexing.html#returning-a-view-versus-a-copy (https://panda
s.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-ver
sus-a-copy)
  data['Month'].replace(3,"Mar",inplace=True)
C:\Users\PC\AppData\Local\Temp\ipykernel_2516\332633854.py:4: SettingWithCopy
Warning:
A value is trying to be set on a copy of a slice from a DataFrame

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/s
table/user_guide/indexing.html#returning-a-view-versus-a-copy (https://panda
s.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-ver
sus-a-copy)
  data['Month'].replace(4,"Apr",inplace=True)
C:\Users\PC\AppData\Local\Temp\ipykernel_2516\332633854.py:5: SettingWithCopy
Warning:
A value is trying to be set on a copy of a slice from a DataFrame

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/s
table/user_guide/indexing.html#returning-a-view-versus-a-copy (https://panda
s.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-ver
sus-a-copy)
  data['Month'].replace(5,"May",inplace=True)
C:\Users\PC\AppData\Local\Temp\ipykernel_2516\332633854.py:6: SettingWithCopy
Warning:
A value is trying to be set on a copy of a slice from a DataFrame

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/s
table/user_guide/indexing.html#returning-a-view-versus-a-copy (https://panda
s.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-ver
sus-a-copy)
  data['Month'].replace(6,"June",inplace=True)
C:\Users\PC\AppData\Local\Temp\ipykernel_2516\332633854.py:7: SettingWithCopy
Warning:
A value is trying to be set on a copy of a slice from a DataFrame
```

```
See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy (https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy)
  data['Month'].replace(7,"July",inplace=True)
C:\Users\PC\AppData\Local\Temp\ipykernel_2516\332633854.py:8: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy (https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy)
  data['Month'].replace(8,"Aug",inplace=True)
C:\Users\PC\AppData\Local\Temp\ipykernel_2516\332633854.py:9: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy (https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy)
  data['Month'].replace(9,"Sep",inplace=True)
C:\Users\PC\AppData\Local\Temp\ipykernel_2516\332633854.py:10: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy (https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy)
  data['Month'].replace(10,"Oct",inplace=True)
C:\Users\PC\AppData\Local\Temp\ipykernel_2516\332633854.py:11: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy (https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy)
  data['Month'].replace(11,"Nov",inplace=True)
C:\Users\PC\AppData\Local\Temp\ipykernel_2516\332633854.py:12: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy (https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy)
  data['Month'].replace(12,"Dec",inplace=True)
```

In [9]:
```
data
```

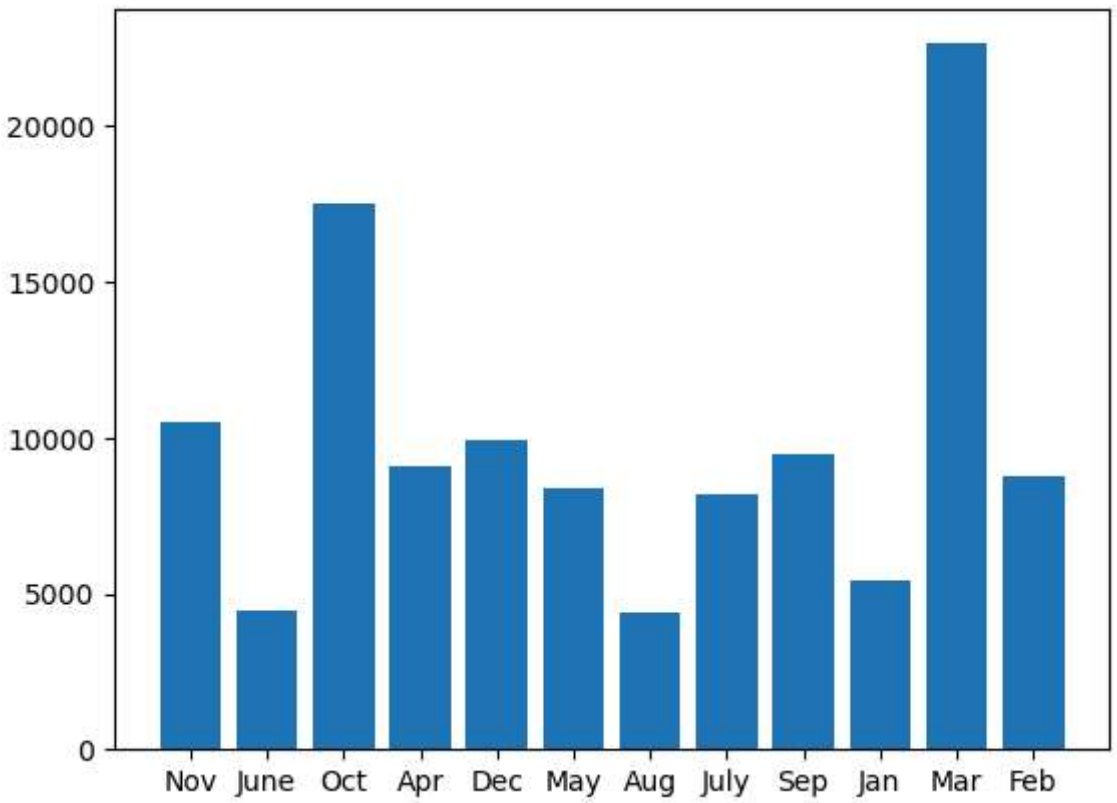
Out[9]:

	Order Date	Sales	Month
0	2018-11-08	261.9600	Nov
1	2018-11-08	731.9400	Nov
2	2018-06-12	14.6200	June
3	2017-10-11	957.5775	Oct
4	2017-10-11	22.3680	Oct
...	...	...	...
9989	2016-01-21	25.2480	Jan
9990	2019-02-26	91.9600	Feb
9991	2019-02-26	258.5760	Feb
9992	2019-02-26	29.6000	Feb
9993	2019-05-04	243.1600	May

9994 rows × 3 columns

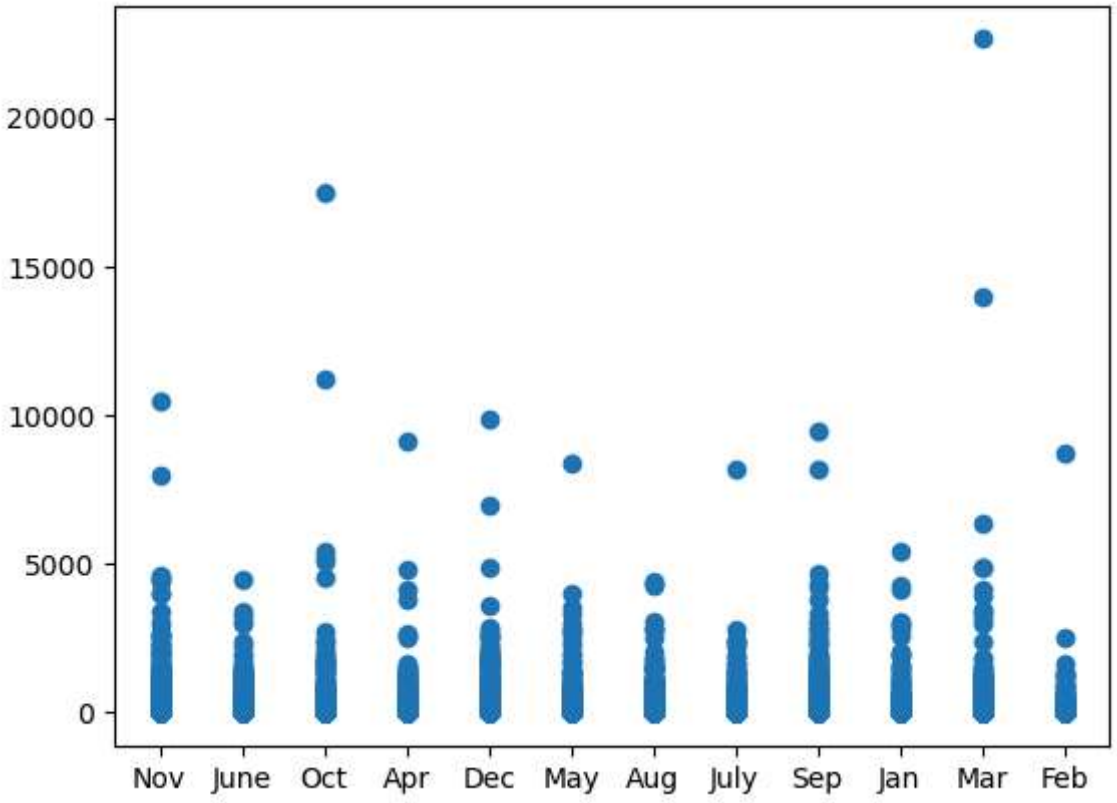
In [10]:
```
plt.bar("Month",'Sales',data=data)
```

Out[10]:
```
<BarContainer object of 9994 artists>
```



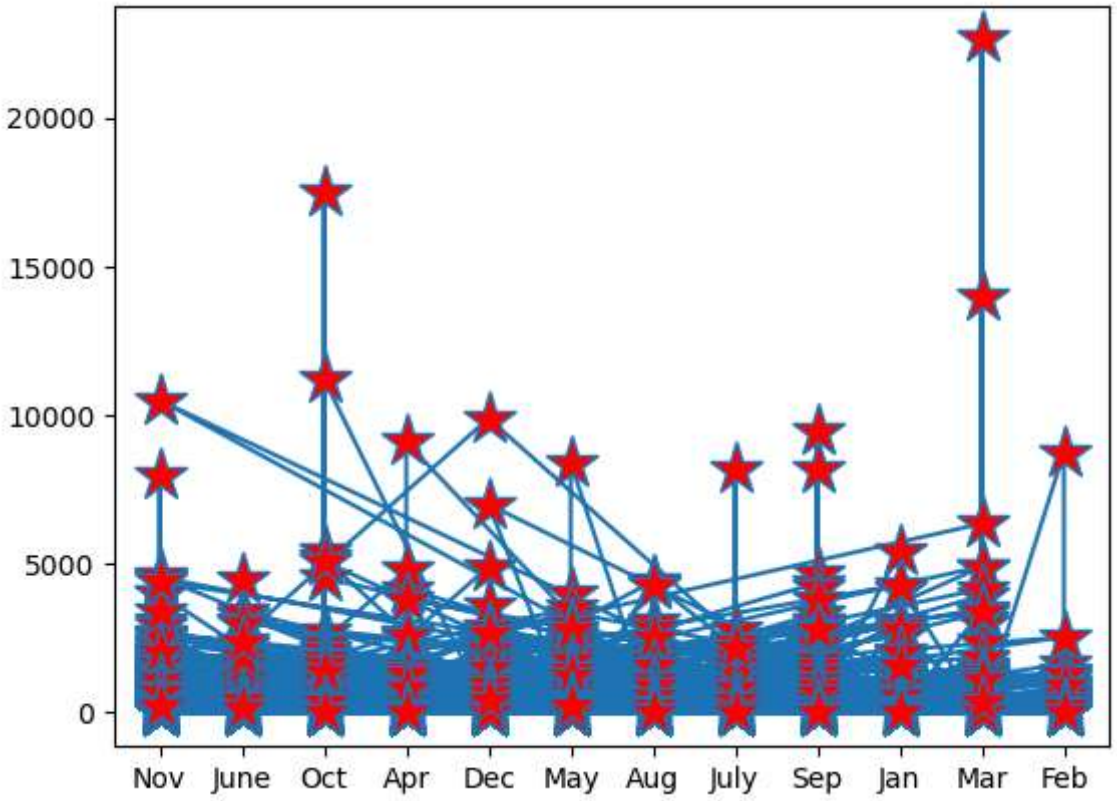
In [11]:
```
plt.scatter("Month",'Sales',data=data)
```

Out[11]:
```
<matplotlib.collections.PathCollection at 0x23392aaa860>
```



In [19]:
```
plt.plot("Month",'Sales',data=data,marker="*",mfc="r",markersize=20)
```

Out[19]:
```
[<matplotlib.lines.Line2D at 0x2339d1b61d0>]
```



In [20]:
```
monthdata=data.groupby("Month").sum()
monthdata
```

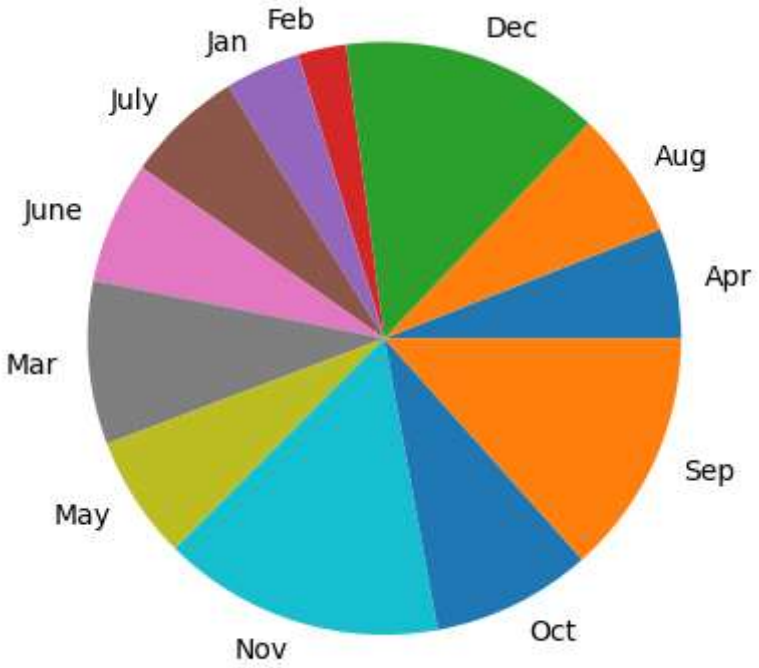
```
C:\Users\PC\AppData\Local\Temp\ipykernel_2516\3872949287.py:1: FutureWarning:
The default value of numeric_only in DataFrameGroupBy.sum is deprecated. In a
future version, numeric_only will default to False. Either specify numeric_on
ly or select only columns which should be valid for the function.
  monthdata=data.groupby("Month").sum()
```

Out[20]:

Month	Sales
Apr	137762.1286
Aug	159044.0630
Dec	325293.5035
Feb	59751.2514
Jan	94924.8356
July	147238.0970
June	152718.6793
Mar	205005.4888
May	155028.8117
Nov	352461.0710
Oct	200322.9847
Sep	307649.9457

In [22]:
```
plt.pie(monthdata['Sales'],labels=monthdata.index)
```

Out[22]:
```
([<matplotlib.patches.Wedge at 0x2339d2a6740>,
  <matplotlib.patches.Wedge at 0x2339d2a6650>,
  <matplotlib.patches.Wedge at 0x2339d27fc70>,
  <matplotlib.patches.Wedge at 0x2339d1ea590>,
  <matplotlib.patches.Wedge at 0x2339d2a7220>,
  <matplotlib.patches.Wedge at 0x2339d2a76a0>,
  <matplotlib.patches.Wedge at 0x2339d2a7b20>,
  <matplotlib.patches.Wedge at 0x2339d2a7fa0>,
  <matplotlib.patches.Wedge at 0x2339e2f0460>,
  <matplotlib.patches.Wedge at 0x2339e2f08e0>,
  <matplotlib.patches.Wedge at 0x2339d2a6710>,
  <matplotlib.patches.Wedge at 0x2339e2f11b0>],
 [Text(1.080535680114295, 0.20601612558229151, 'Apr'),
  Text(0.9113919738056956, 0.6159258641123608, 'Aug'),
  Text(0.3398820656611365, 1.0461740684235674, 'Dec'),
  Text(-0.2319442849772058, 1.0752682682318924, 'Feb'),
  Text(-0.4525345491443851, 1.0026028534921931, 'Jan'),
  Text(-0.7539456249097216, 0.8009781486903931, 'July'),
  Text(-1.0108290957226311, 0.43384852107684785, 'June'),
  Text(-1.0961407390594338, -0.09206237110914711, 'Mar'),
  Text(-0.9224141530631138, -0.5992930253464149, 'May'),
  Text(-0.3257042988633394, -1.050674407084298, 'Nov'),
  Text(0.48377576989601023, -0.987907386581112, 'Oct'),
  Text(1.0040683699987416, -0.44927353401693976, 'Sep')])
```



In [ ]:
```

```