

```
In [21]: import pandas as pd
from matplotlib import pyplot as plt
# Read CSV into pandas
data = pd.read_csv("C:/Users/USER/Desktop/MLLABDOCS-11OCT2021/CARS-02.csv")
data.head()

df = pd.DataFrame(data)
```

```
In [22]: df.columns
```

```
Out[22]: Index(['car', 'mpg', 'cyl', 'disp', 'hp', 'drat', 'wt', 'qsec', 'vs', 'am',
               'gear', 'carb'],
              dtype='object')
```

```
In [23]: l1 = list(data.columns.values)
```

```
In [24]: #Col 0 = 'car'
l4 = data[l1[0]].tolist()
l4
```

```
Out[24]: ['Mazda RX4',
          'Mazda RX4 Wag',
          'Datsun 710',
          'Hornet 4 Drive',
          'Hornet Sportabout',
          'Valiant',
          'Duster 360',
          'Merc 240D',
          'Merc 230',
          'Merc 280',
          'Merc 280C',
          'Merc 450SE',
          'Merc 450SL',
          'Merc 450SLC',
          'Cadillac Fleetwood',
          'Lincoln Continental',
          'Chrysler Imperial',
          'Fiat 128',
          'Honda Civic',
          'Toyota Corolla',
          'Toyota Corona',
          'Dodge Challenger',
          'AMC Javelin',
          'Camaro Z28',
```

```
'Pontiac Firebird',  
'Fiat X1-9',  
'Porsche 914-2',  
'Lotus Europa',  
'Ford Pantera L',  
'Ferrari Dino',  
'Maserati Bora',  
'Volvo 142E']
```

```
In [25]: #Col 1 = 'mpg'  
15 = data[l1[1]].tolist()  
15
```

```
Out[25]: [21.0,  
21.0,  
22.8,  
21.4,  
18.7,  
18.1,  
14.3,  
24.4,  
22.8,  
19.2,  
17.8,  
16.4,  
17.3,  
15.2,  
10.4,  
10.4,  
14.7,  
32.4,  
30.4,  
33.9,  
21.5,  
15.5,  
15.2,  
13.3,  
19.2,  
27.3,  
26.0,  
30.4,  
15.8,  
19.7,  
15.0,  
21.4]
```

```
In [26]: #Col 2 = 'cyl'
```

```
16 = data[l1[2]].tolist()
16
```

```
Out[26]: [6,
6,
4,
6,
8,
6,
8,
4,
4,
6,
6,
8,
8,
8,
8,
8,
8,
8,
4,
4,
4,
4,
4,
8,
8,
8,
8,
4,
4,
4,
8,
6,
8,
4]
```

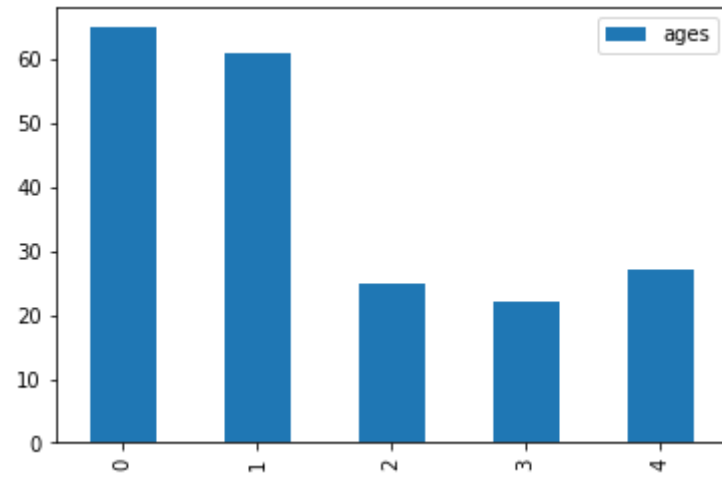
```
In [27]: df.plot(kind='scatter', 15, 16)
```

```
File "<ipython-input-27-a61dbfe69a51>", line 1
df.plot(kind='scatter', 15, 16)
      ^
```

SyntaxError: positional argument follows keyword argument

```
In [28]: # Create a data frame with one column, "ages"
plotdata = pd.DataFrame({"ages": [65, 61, 25, 22, 27]})
plotdata.plot(kind="bar")
```

Out[28]: <AxesSubplot:>

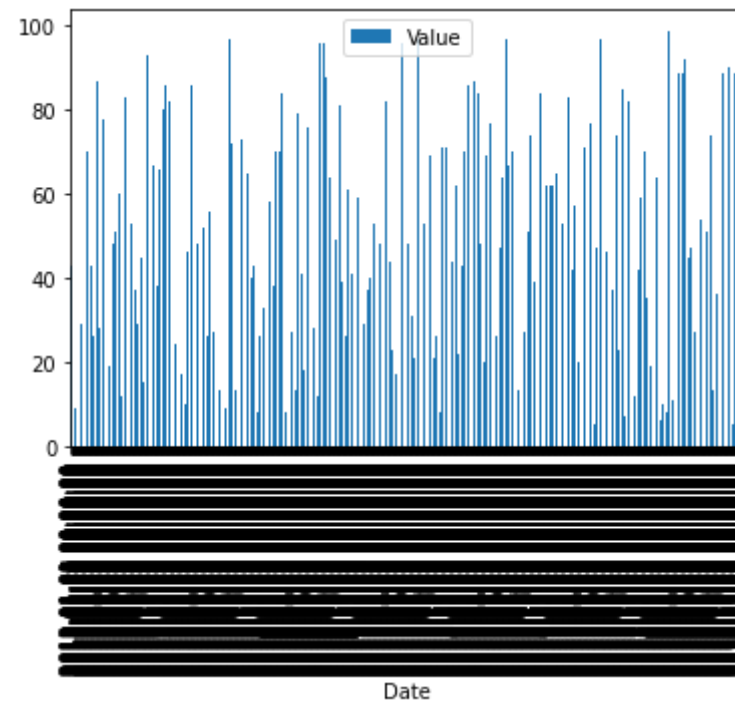
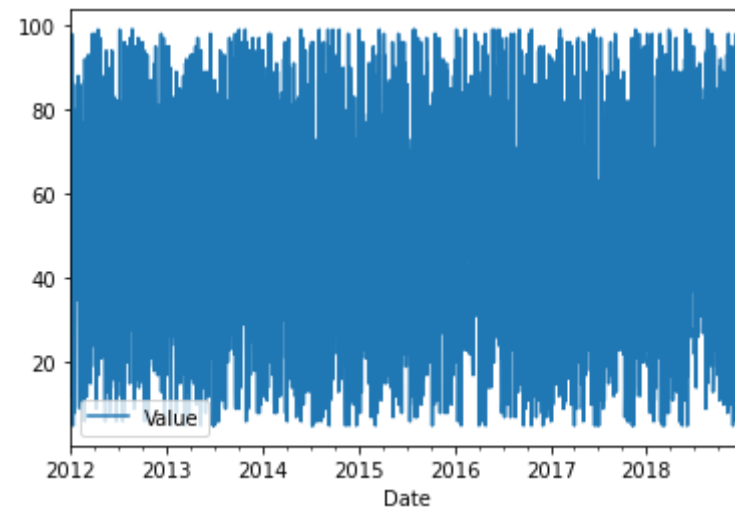


```
In [29]: import matplotlib.pyplot as plt
import numpy as np
import pandas as pd

df = pd.DataFrame()
df['Date'] = pd.date_range(start='01/01/2012', end='31/12/2018')
df['Value'] = np.random.randint(low=5, high=100, size=len(df))
df.set_index('Date', inplace=True)

df.plot()
plt.show()

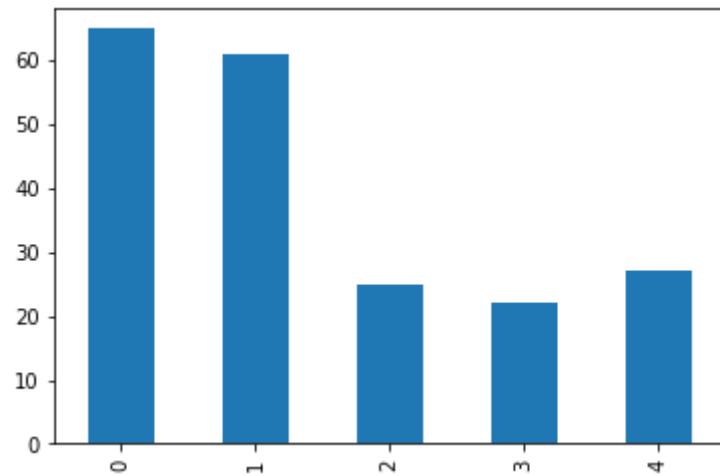
df.plot(kind='bar')
plt.show()
```



```
In [30]: import pandas as pd

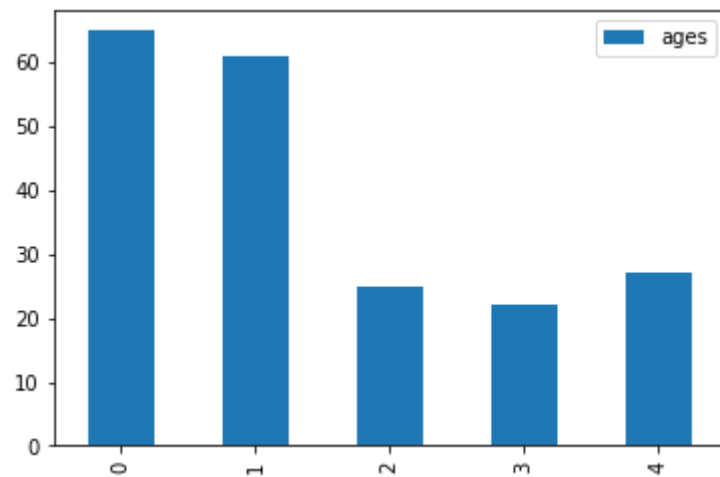
pd.Series([65, 61, 25, 22, 27]).plot(kind="bar")
```

Out[30]: <AxesSubplot:>



```
In [33]: # Create a data frame with one column, "ages"
plotdata = pd.DataFrame({"ages": [65, 61, 25, 22, 27]})
plotdata.plot(kind="bar")
```

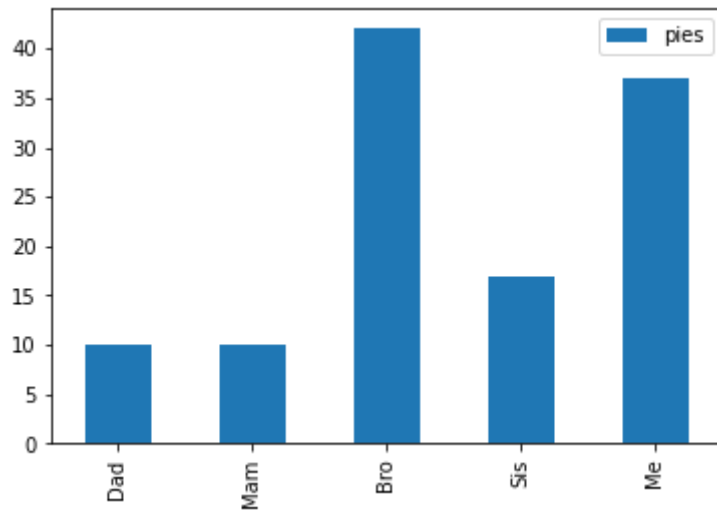
Out[33]: <AxesSubplot:>



```
In [37]: # Create a sample dataframe with an text index
plotdata = pd.DataFrame(
    {"pies": [10, 10, 42, 17, 37]},
    index=["Dad", "Mam", "Bro", "Sis", "Me"])
```

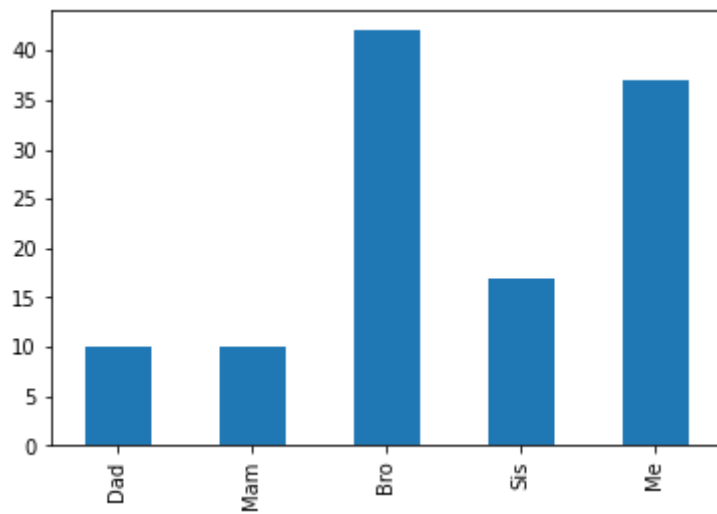
```
# Plot a bar chart  
plotdata.plot(kind="bar")
```

Out[37]: <AxesSubplot:>



```
In [36]: # Individual columns chosen from the DataFrame  
# as Series are plotted in the same way:  
plotdata['pies'].plot(kind="bar")
```

Out[36]: <AxesSubplot:>



```
In [38]: from matplotlib import pyplot as plt
plotdata['pies'].plot(kind="bar", title="test")

plt.title("Mince Pie Consumption Study Results")

plt.xlabel("Family Member")

plt.ylabel("Pies Consumed")
```

Out[38]: Text(0, 0.5, 'Pies Consumed')

