

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

In [2]: import numpy as np

In [3]: from matplotlib import pyplot as plt

In [4]: x=np.arange(1,101)

In [5]: x

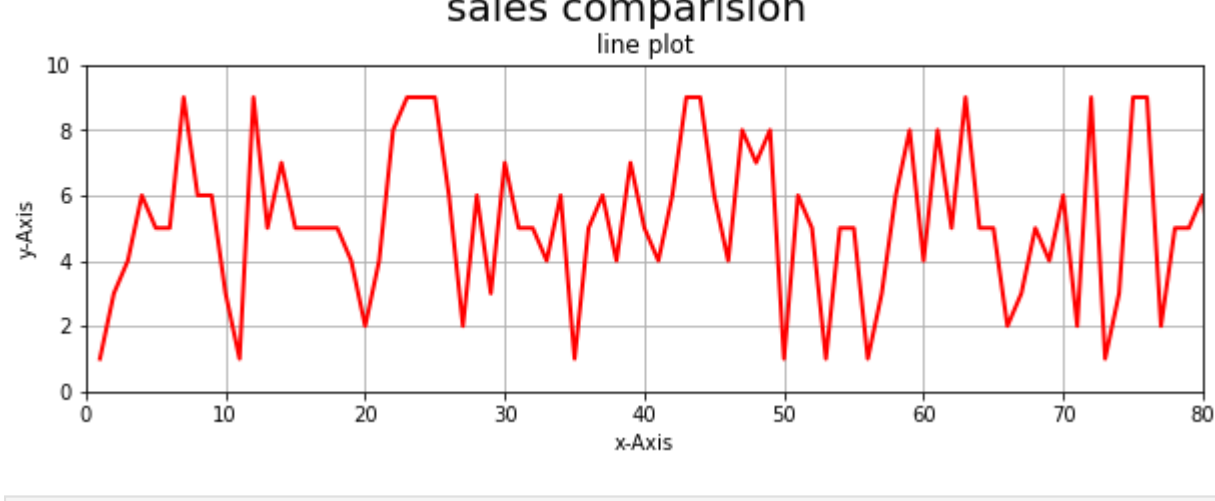
Out[5]: array([ 1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13,
        14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26,
        27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39,
        40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52,
        53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65,
        66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78,
        79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91,
        92, 93, 94, 95, 96, 97, 98, 99, 100])

In [6]: y=np.random.randint(1,10,100)

In [7]: y

Out[7]: array([1, 3, 4, 6, 5, 5, 9, 6, 6, 3, 1, 9, 5, 7, 5, 5, 5, 4, 2, 4, 8,
        9, 9, 9, 6, 2, 6, 3, 7, 5, 5, 4, 6, 1, 5, 6, 4, 7, 5, 4, 6, 9, 9,
        6, 4, 8, 7, 8, 1, 6, 5, 1, 5, 5, 1, 3, 6, 8, 4, 8, 5, 9, 5, 5, 2,
        3, 5, 4, 6, 2, 9, 1, 3, 9, 9, 2, 5, 5, 6, 2, 7, 3, 7, 9, 3, 3, 2,
        5, 8, 6, 8, 9, 6, 3, 3, 6, 6, 1])

In [8]: fig=plt.figure(figsize=(10,3))
plt.plot(x,y,color='r',linewidth=2)
plt.xlim(0,80)
plt.ylim(0,10)
plt.xlabel('x-Axis')
plt.ylabel('y-Axis')
plt.title('line plot')
plt.suptitle('sales comparision',size=20,y=1.05)
plt.grid(True)
plt.show()
```

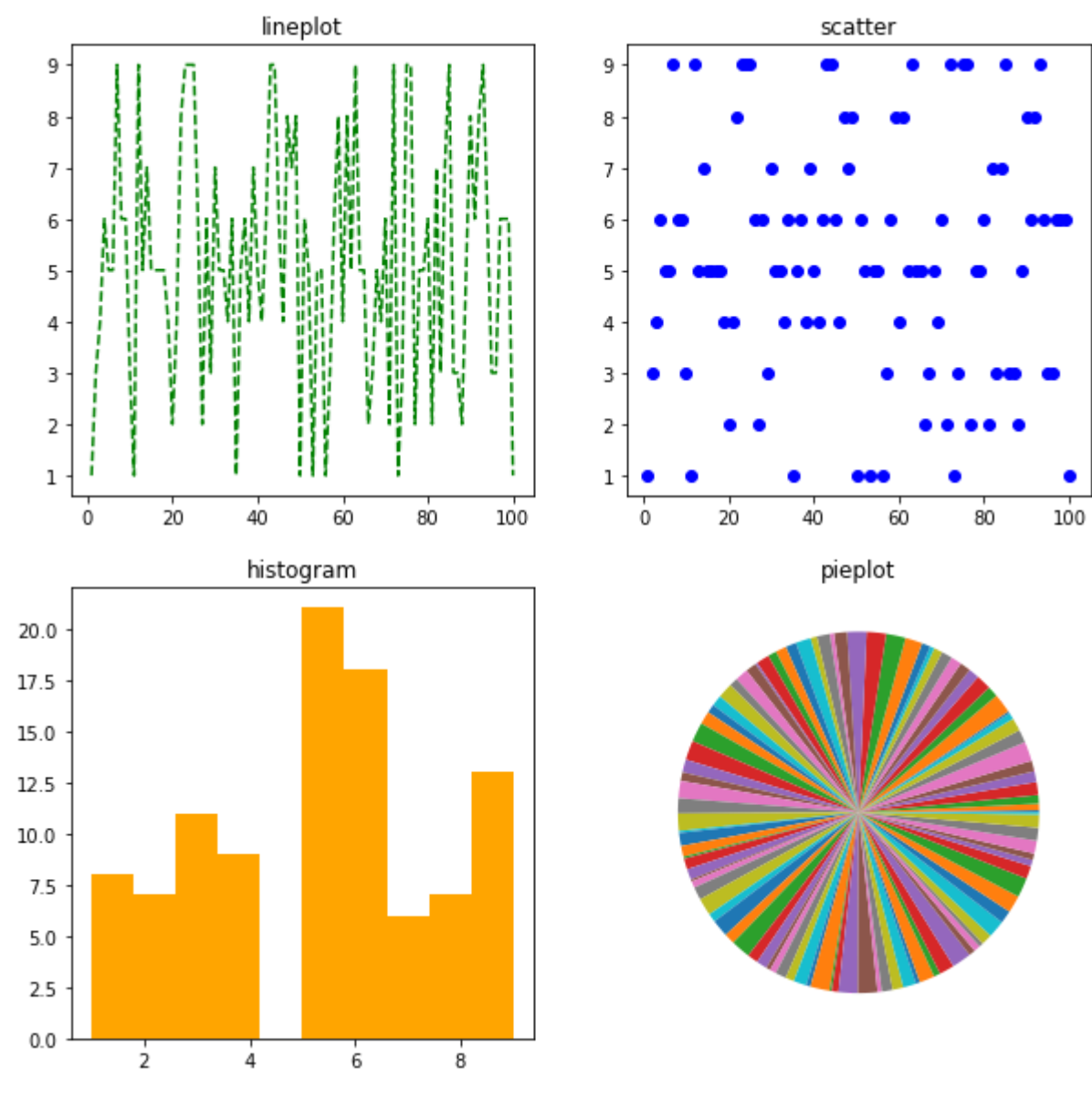


```
In [9]: fig.savefig('example.png',dpi=300,bbox_inches='tight')

In [10]: fig,ax=plt.subplots(nrows=2,ncols=2)

1.00 1.00
0.75 0.75
0.50 0.50
0.25 0.25
0.00 0.00
0.0 0.2 0.4 0.6 0.8 1.0 0.0 0.2 0.4 0.6 0.8 1.0
1.00 1.00
0.75 0.75
0.50 0.50
0.25 0.25
0.00 0.00
0.0 0.2 0.4 0.6 0.8 1.0 0.0 0.2 0.4 0.6 0.8 1.0
```

```
In [11]: fig,ax=plt.subplots(nrows=2,ncols=2,figsize=(10,10))
ax[0,0].plot(x,y,color='green',linestyle='dashed')
ax[0,0].set_title('lineplot')
ax[1,0].hist(y,color='orange')
ax[0,1].set_title('histogram')
ax[0,1].scatter(x,y,color='blue')
ax[0,1].set_title('scatter')
ax[1,1].pie(y)
ax[1,1].set_title('pieplot')
plt.grid(True)
plt.show()
```



```
In [12]: mtcars=pd.read_csv("C:\\Users\\Pranav\\Desktop\\DATA SCIENCE DATA\\CVC file\\mtcars.csv")

In [13]: mtcars.columns

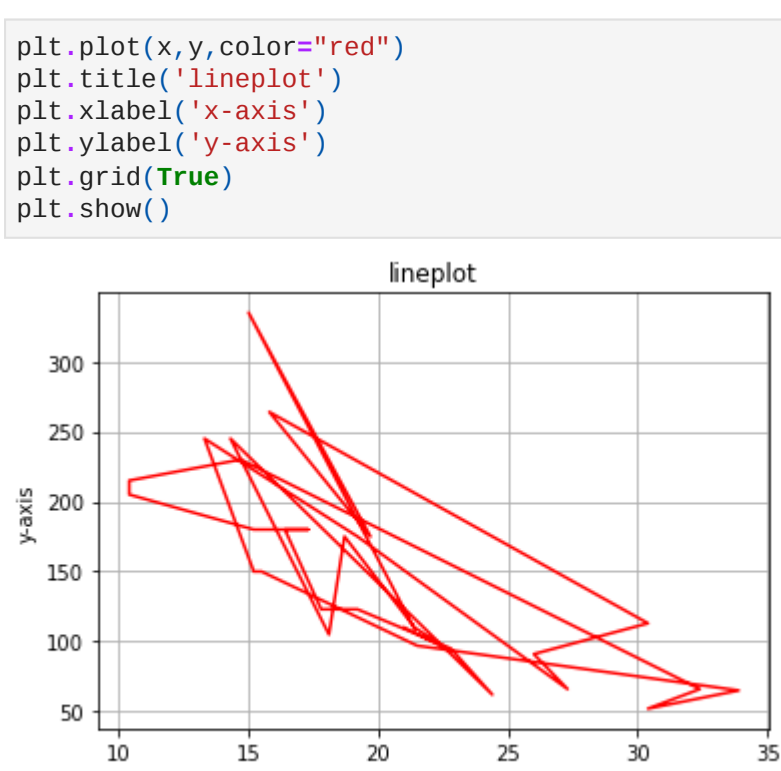
Out[13]: Index(['mpg', 'cyl', 'disp', 'hp', 'drat', 'wt', 'qsec', 'vs', 'am', 'gear',
        'carb'],
        dtype='object')

In [14]: mtcars.info()

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 32 entries, 0 to 31
Data columns (total 11 columns):
#   Column  Non-Null Count  Dtype
---  ---
0    mpg      32 non-null    float64
1    cyl      32 non-null    int64
2    disp     32 non-null    float64
3    hp       32 non-null    int64
4    drat     32 non-null    float64
5    wt       32 non-null    float64
6    qsec     32 non-null    float64
7    vs       32 non-null    int64
8    am       32 non-null    int64
9    gear     32 non-null    int64
10   carb     32 non-null    int64
dtypes: float64(5), int64(6)
memory usage: 2.9 KB

In [15]: x=mtcars['mpg'].values
y=mtcars['hp'].values

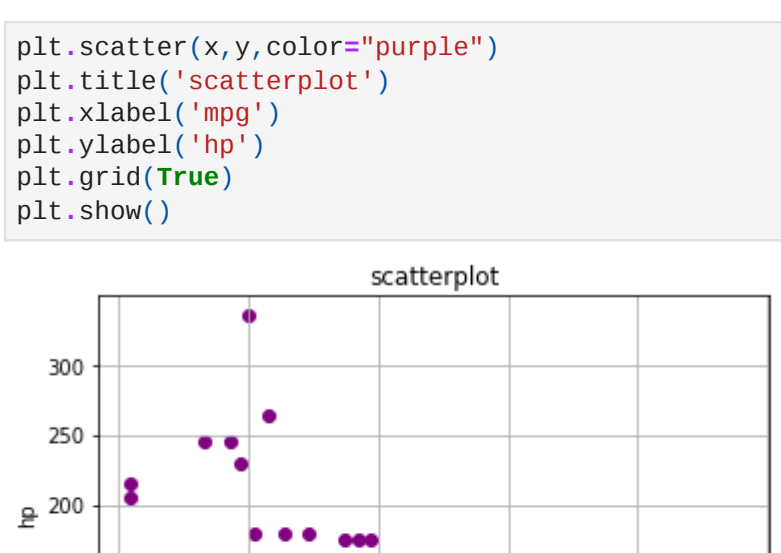
In [16]: plt.plot(x,y,color="red")
plt.title('lineplot')
plt.xlabel('x-axis')
plt.ylabel('y-axis')
plt.grid(True)
plt.show()
```



```
In [17]: plt.hist(y,color="blue")
plt.title('histogram')
plt.xlabel('mpg')
plt.ylabel('hp')
plt.grid(True)
plt.show()

histogram

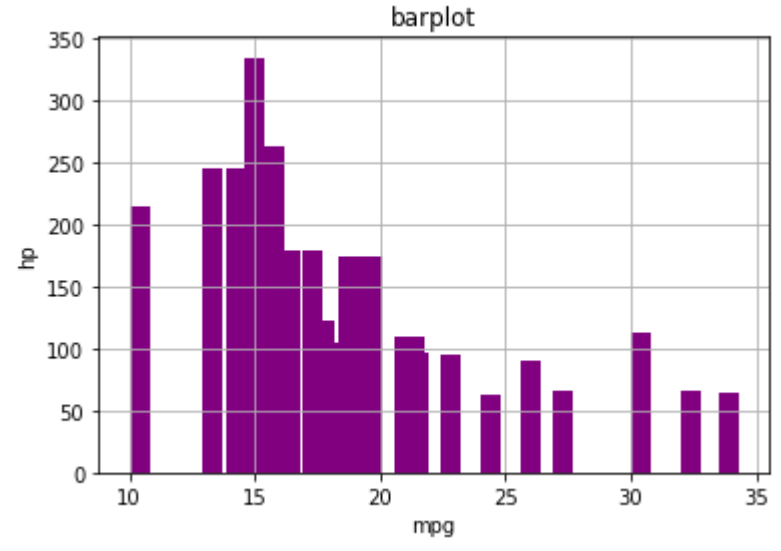
7
6
5
4
3
2
1
0
50 100 150 200 250 300
mpg
```



```
In [18]: plt.scatter(x,y,color="purple")
plt.title('scatterplot')
plt.xlabel('mpg')
plt.ylabel('hp')
plt.grid(True)
plt.show()

scatterplot

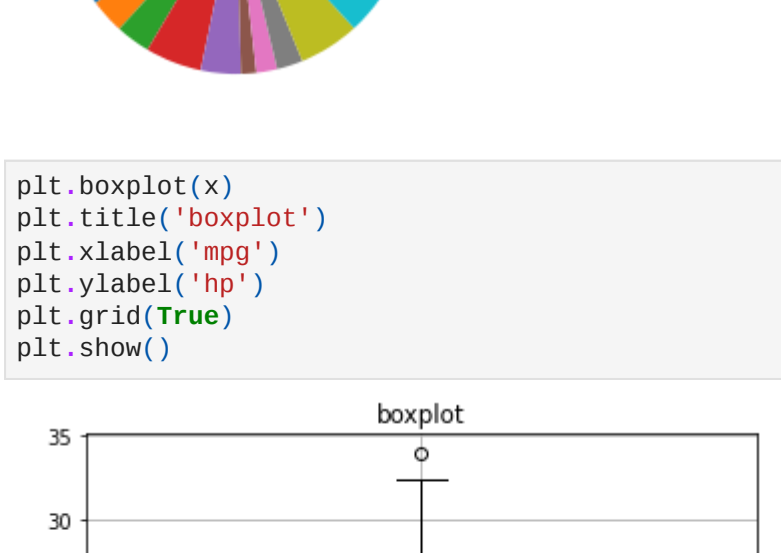
300
250
200
150
100
50
10 15 20 25 30 35
mpg
```



```
In [19]: plt.bar(x,y,color="purple")
plt.title('barplot')
plt.xlabel('mpg')
plt.ylabel('hp')
plt.grid(True)
plt.show()

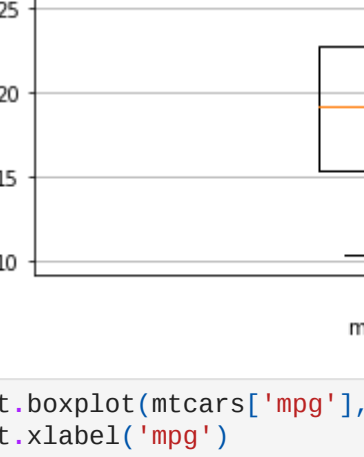
barplot

350
300
250
200
150
100
50
0
10 15 20 25 30 35
mpg
```



```
In [20]: plt.pie(y)
plt.title('pieplot')
plt.show()

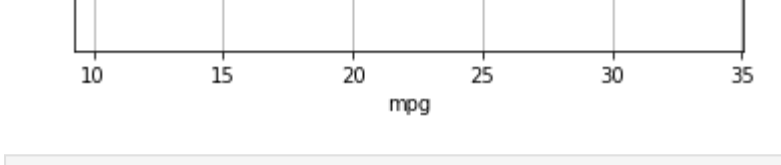
pieplot
```



```
In [21]: plt.boxplot(x)
plt.title('boxplot')
plt.xlabel('mpg')
plt.ylabel('hp')
plt.grid(True)
plt.show()

boxplot

35
30
25
20
15
10
1
mpg
```



```
In [23]: plt.boxplot(mtcars['mpg'],vert=False)
plt.xlabel('mpg')
plt.ylabel('hp')
plt.grid(True)
plt.show()

1
10 15 20 25 30 35
mpg
```



```
In [ ]: s
```