```
Mounted at /content/drive
```

```
import os
```

```
import pandas as pd
```

```
data_csv=pd.read_csv ('/content/drive/MyDrive/Iris.csv')
```

```
data_csv-
```

	Id	SepalLengthCm	SepalWidthCm	PetalLengthCm	PetalWidthCm	Species
0	1	5.1	3.5	1.4	0.2	Iris-setosa
1	2	4.9	3.0	1.4	0.2	Iris-setosa
2	3	4.7	3.2	1.3	0.2	Iris-setosa
3	4	4.6	3.1	1.5	0.2	Iris-setosa
4	5	5.0	3.6	1.4	0.2	Iris-setosa
...	...	...	...	...	...	...
145	146	6.7	3.0	5.2	2.3	Iris-virginica
146	147	6.3	2.5	5.0	1.9	Iris-virginica
147	148	6.5	3.0	5.2	2.0	Iris-virginica
148	149	6.2	3.4	5.4	2.3	Iris-virginica
149	150	5.9	3.0	5.1	1.8	Iris-virginica

150 rows × 6 columns

```
m
```

```
data_csv=pd.read_csv ('/content/drive/MyDrive/Iris.csv',index_col=0)
```

```
data_csv
```

Id	SepalLengthCm	SepalWidthCm	PetalLengthCm	PetalWidthCm	Species
1	5.1	3.5	1.4	0.2	Iris-setosa
2	4.9	3.0	1.4	0.2	Iris-setosa
3	4.7	3.2	1.3	0.2	Iris-setosa
4	4.6	3.1	1.5	0.2	Iris-setosa
5	5.0	3.6	1.4	0.2	Iris-setosa
...	...	...	...	...	...
146	6.7	3.0	5.2	2.3	Iris-virginica
147	6.3	2.5	5.0	1.9	Iris-virginica
148	6.5	3.0	5.2	2.0	Iris-virginica
149	6.2	3.4	5.4	2.3	Iris-virginica
150	5.9	3.0	5.1	1.8	Iris-virginica

150 rows × 5 columns

```
data_csv=pd.read_csv('/content/drive/MyDrive/Iris.csv',index_col=0,na_values=['??','###'])
```

```
data_csv=pd.read_csv('/content/drive/MyDrive/Iris.csv',index_col=0,na_values=[''])
```

```
df=pd.DataFrame(data_csv)
```

```
null_count=df.isnull().sum()
```

```
print(null_count)
```

```
SepalLengthCm    0
SepalWidthCm     0
PetalLengthCm    0
PetalWidthCm     0
Species          0
dtype: int64
```

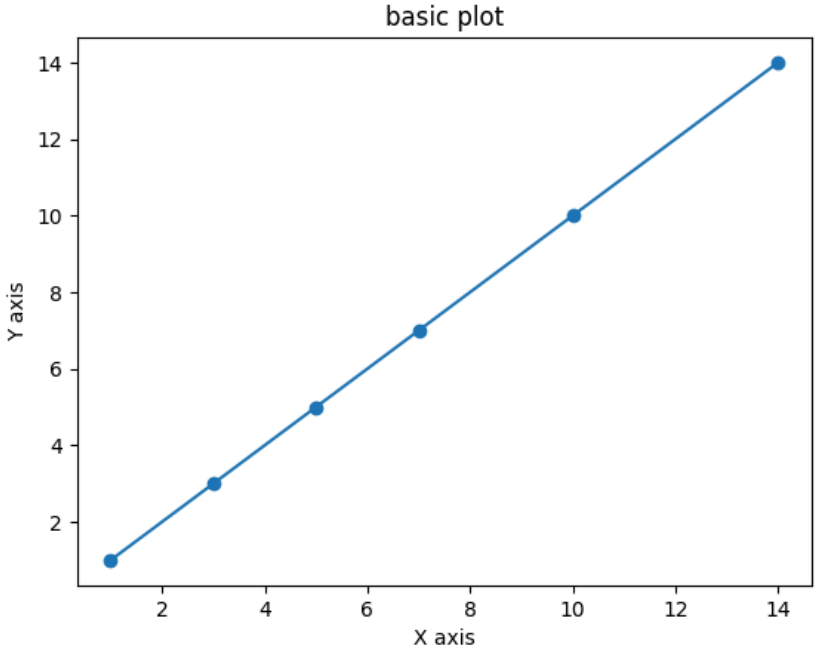
```
import matplotlib.pyplot as plt
```

```
x=[1,3,5,7,10,14]
```

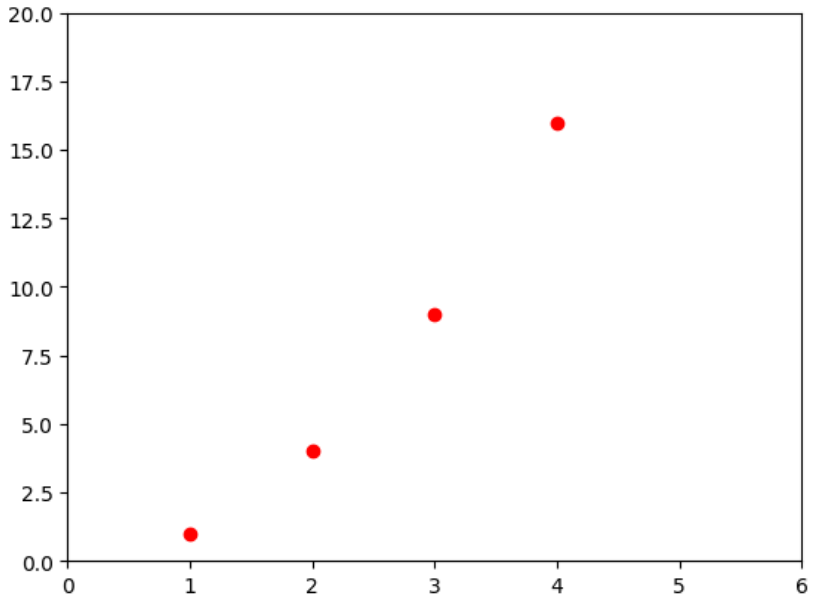
```
y=[1,3,5,7,10,14]
```

```
plt.plot (x,y,marker='o')
plt.xlabel('X axis')
plt.ylabel('Y axis')
plt.title('basic plot')
```

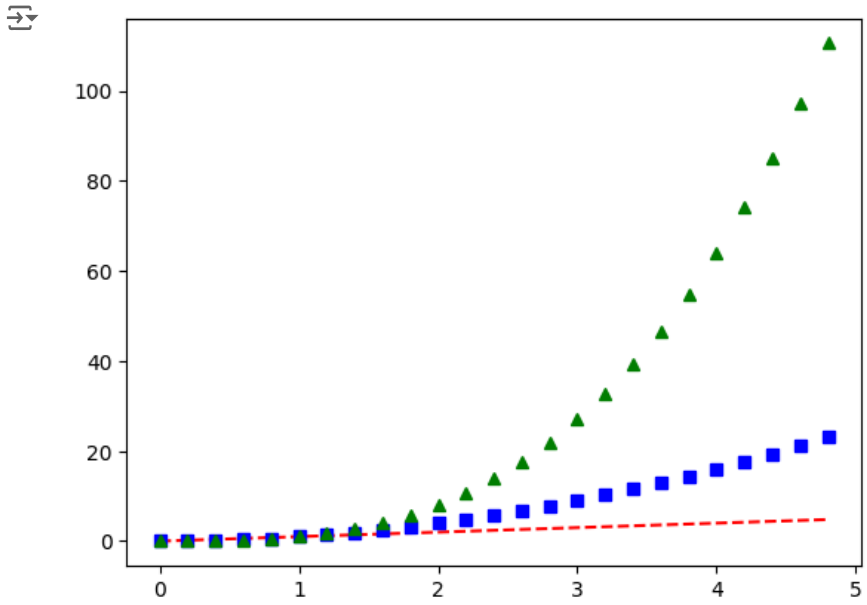
```
Text(0.5, 1.0, 'basic plot')
```




```
import matplotlib.pyplot as plt


plt.plot([1,2,3,4],[1,4,9,16],'ro')
plt.axis([0,6,0,20])
plt.show()
```




```
import numpy as np


t=np.arange(0.,5.,0.2)


plt.plot(t,t,'r--',t,t**2,'bs',t,t**3,'g^')
plt.show()
```




```
np.random.seed(19680801)
```

```
mu,sigma=100,15
```

```
mu
```

```
100
```

```
sigma
```

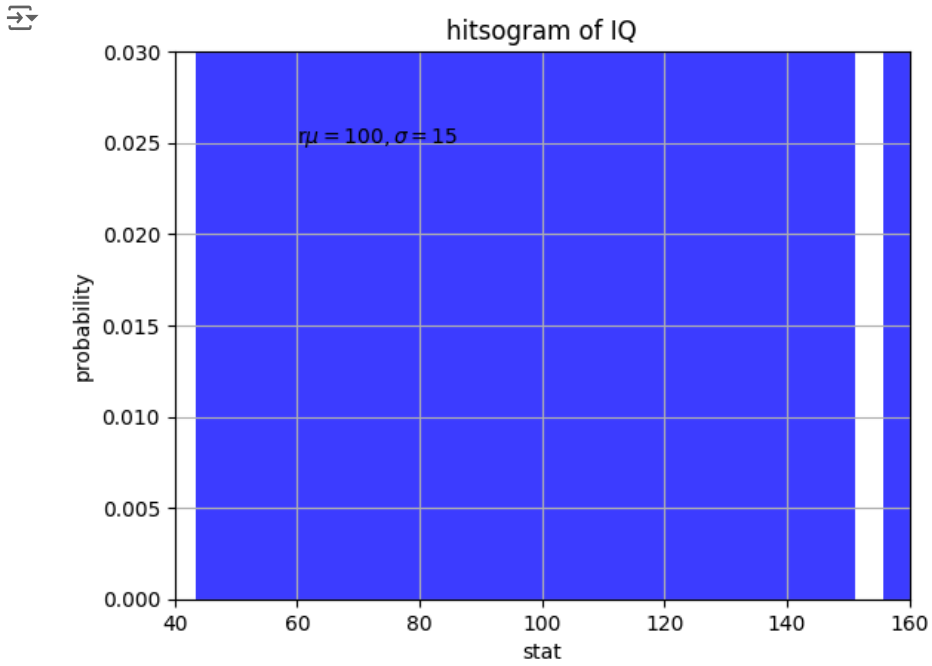
```
15
```

```
x=mu+sigma*np.random.randn(10000)
```

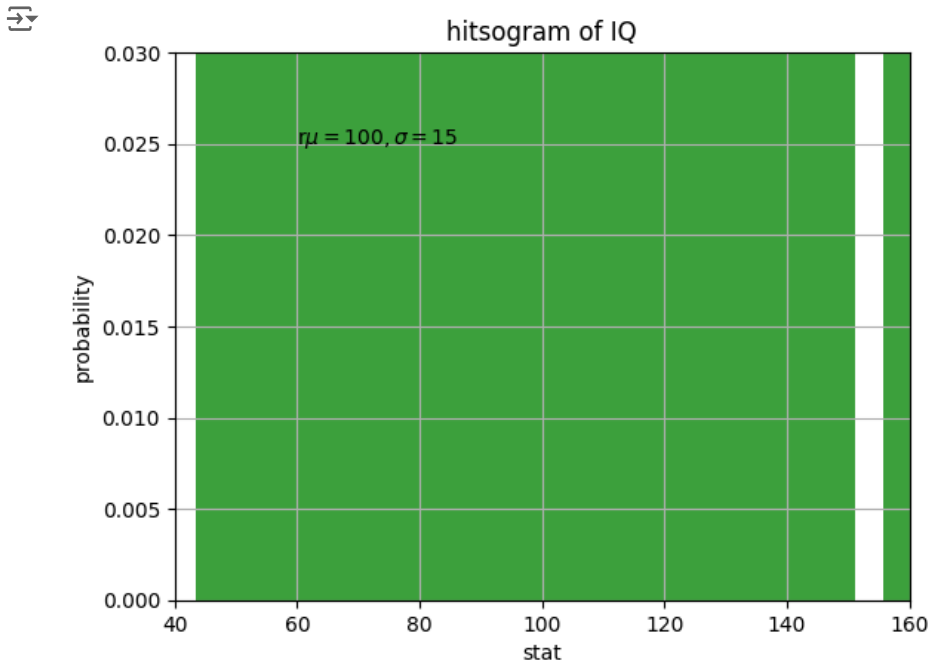
```
x
```

```
array([115.73956466, 112.99148762, 108.267019  , ...,  95.52403791,
           73.28843349,  77.0735325 ])
```

```
n,bins,patches=plt.hist(x,50,facecolor='b',alpha=0.75)
plt.xlabel('stat')
plt.ylabel('probability')
plt.title('hitsogram of IQ')
plt.text(60,.025,'r''$\mu=100,\\sigma=15$')
plt.axis([40,160,0,0.03])
plt.grid(True)
plt.show()
```




```
n,bins,patches=plt.hist(x,50,facecolor='g',alpha=0.75)
plt.xlabel('stat')
plt.ylabel('probability')
plt.title('hitsogram of IQ')
plt.text(60,.025,'r''$\mu=100,\\sigma=15$')
plt.axis([40,160,0,0.03])
plt.grid(True)
plt.show()
```




```
import cv2

img=cv2.imread('/content/download (1).jpg')

plt.imshow(img)
```

```
<matplotlib.image.AxesImage at 0x7e7070df9540>
```

+ Code + Text

```
plt.imshow(img,cmap="hot")
```

```
<matplotlib.image.AxesImage at 0x7e7070e0bc10>
```


```
imgplot = plt.imshow(lum_img)
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-12-626a568e9ffd> in <cell line: 1>()
----> 1 imgplot = plt.imshow(lum_img)

NameError: name 'lum_img' is not defined
```

```
import seaborn
```

```
df=seaborn.load_dataset("tips")
```

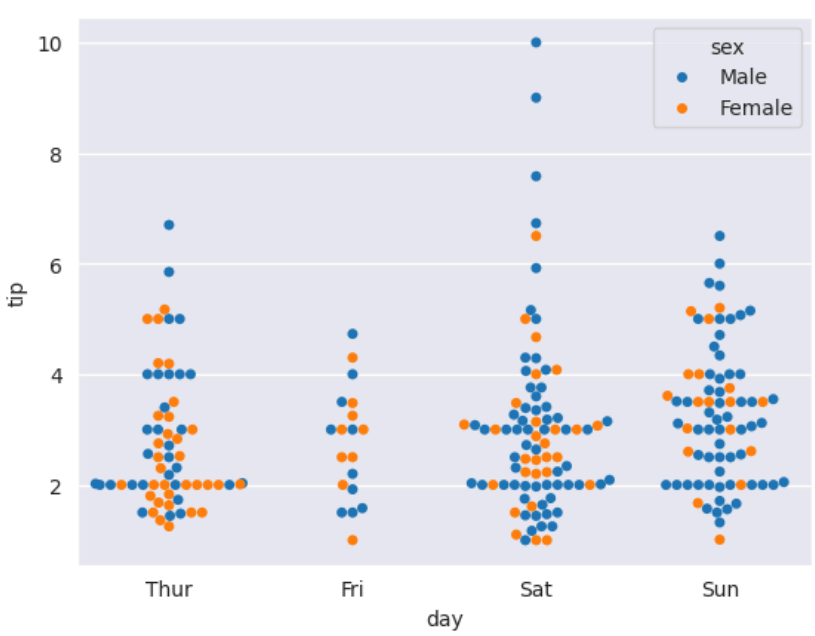
```
df.head()
```

	total_bill	tip	sex	smoker	day	time	size
0	16.99	1.01	Female	No	Sun	Dinner	2
1	10.34	1.66	Male	No	Sun	Dinner	3
2	21.01	3.50	Male	No	Sun	Dinner	3
3	23.68	3.31	Male	No	Sun	Dinner	2
4	24.59	3.61	Female	No	Sun	Dinner	4

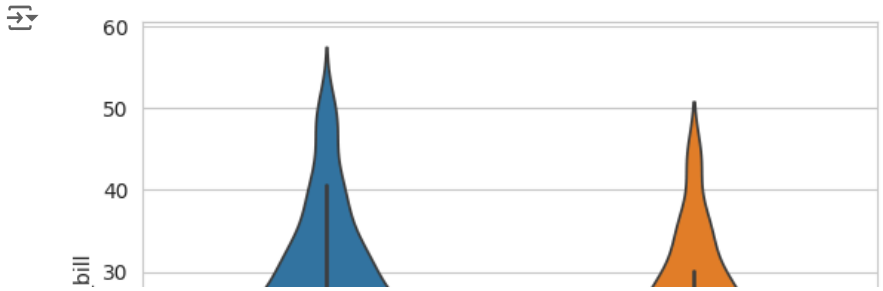
```
df.tail()
```

	total_bill	tip	sex	smoker	day	time	size
239	29.03	5.92	Male	No	Sat	Dinner	3
240	27.18	2.00	Female	Yes	Sat	Dinner	2
241	22.67	2.00	Male	Yes	Sat	Dinner	2
242	17.82	1.75	Male	No	Sat	Dinner	2
243	18.78	3.00	Female	No	Thur	Dinner	2

```
#gender_palette=["#A833FF","FFAF33"]
seaborn.swarmplot(x="day",y="tip",hue="sex",data=df)
seaborn.set_style("whitegrid")
plt.show()
```




```
seaborn.violinplot(x="sex",y="total_bill",hue="sex",data=df)
seaborn.set_style("whitegrid")
plt.show()
```




```
fg=seaborn.FacetGrid(df,col="time",row="sex")
fg=fg.map(plt.hist,"tip",color="tomato")
```