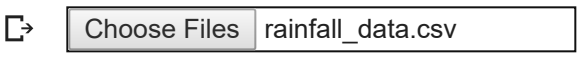
```
import pandas as pd


from google.colab import files
uploaded = files.upload()
```



- **rainfall_data.csv**(n/a) - 446750 bytes, last modified: 10/10/2019 - 100% done

```
Saving rainfall_data.csv to rainfall_data.csv


import io
df = pd.read_csv(io.BytesIO(uploaded['rainfall_data.csv']))
```

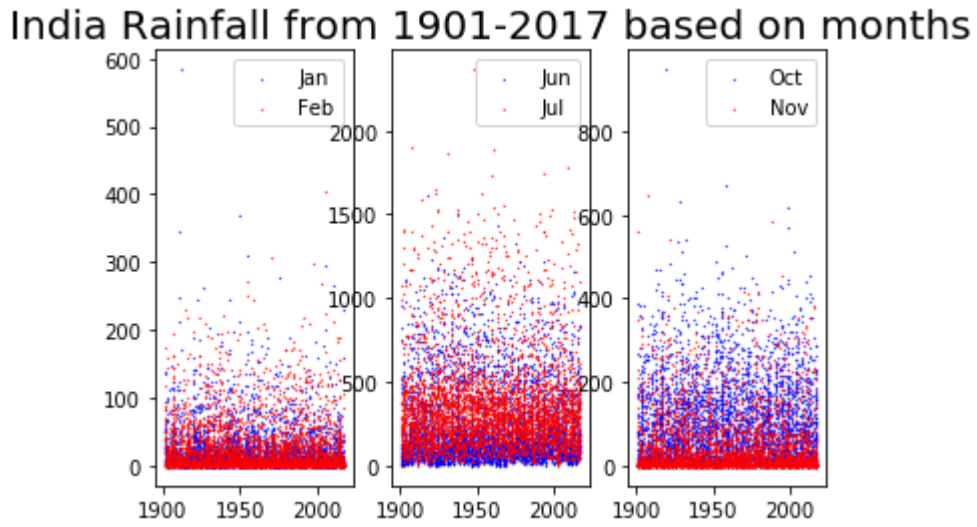
Scatter Plot

```
import matplotlib.pyplot as plt
import numpy as np
from pylab import *


df.columns
```

```
Index(['SUBDIVISION', 'YEAR', 'JAN', 'FEB', 'MAR', 'APR', 'MAY', 'JUN', 'JUL',
       'AUG', 'SEP', 'OCT', 'NOV', 'DEC', 'ANNUAL', 'JF', 'MAM', 'JJAS',
       'OND'],
      dtype='object')
```

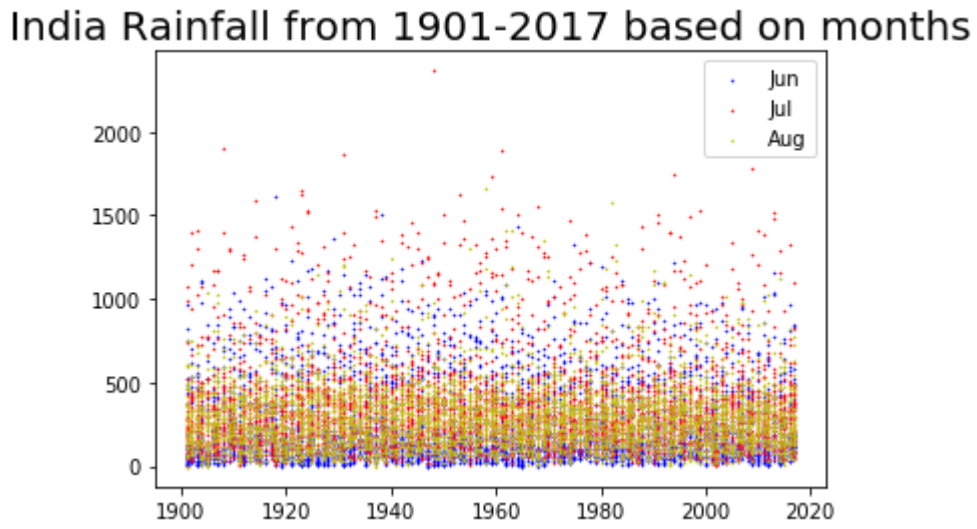
```
subplot(1,3,1)

plt.scatter(df.YEAR,df.JAN,c='b',s=0.1,label='Jan')
plt.scatter(df.YEAR,df.FEB,c='R',s=0.1,label='Feb')
plt.legend()

subplot(1,3,2)
plt.title('India Rainfall from 1901-2017 based on months', fontsize=20)
plt.scatter(df.YEAR,df.JUN,c='b',s=0.1,label='Jun')
plt.scatter(df.YEAR,df.JUL,c='R',s=0.1,label='Jul')
plt.legend()

subplot(1,3,3)

plt.scatter(df.YEAR,df.OCT,c='b',s=0.1,label='Oct')
plt.scatter(df.YEAR,df.NOV,c='R',s=0.1,label='Nov')
plt.legend()
```

```
<matplotlib.legend.Legend at 0x7f077c6f0630>
```



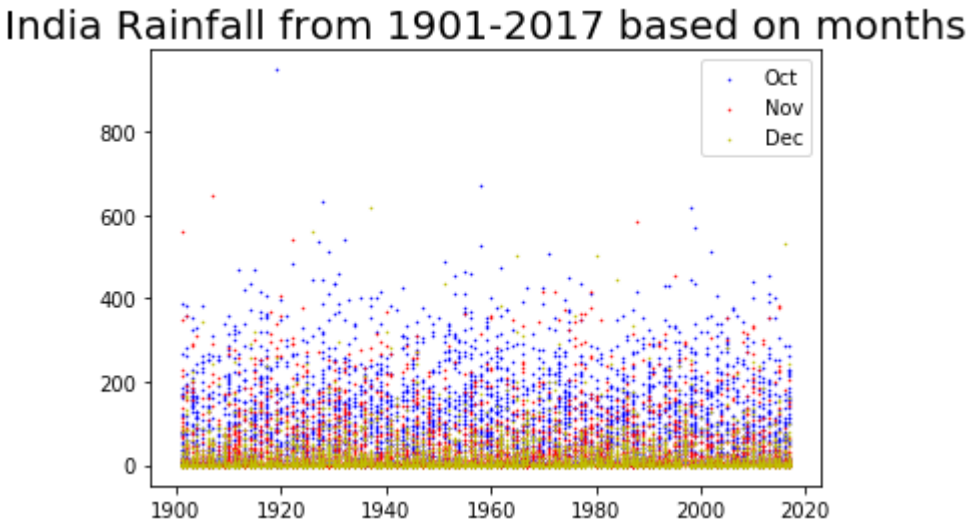

```
plt.title('India Rainfall from 1901-2017 based on months', fontsize=20)
plt.scatter(df.YEAR,df.JUN,c='b',s=0.3,label='Jun')
plt.scatter(df.YEAR,df.JUL,c='R',s=0.3,label='Jul')
plt.scatter(df.YEAR,df.AUG,c='y',s=0.3,label='Aug')
plt.legend()
```

```
<matplotlib.legend.Legend at 0x7f077c638fd0>
```



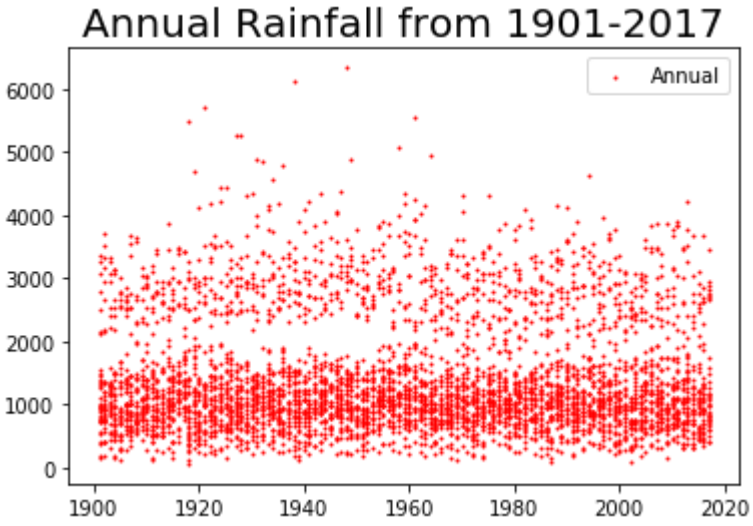

```
plt.title('India Rainfall from 1901-2017 based on months', fontsize=20)
plt.scatter(df.YEAR,df.OCT,c='b',s=0.3,label='Oct')
plt.scatter(df.YEAR,df.NOV,c='R',s=0.3,label='Nov')
plt.scatter(df.YEAR,df.DEC,c='y',s=0.3,label='Dec')
plt.legend()
```

```
<matplotlib.legend.Legend at 0x7f077ae22dd8>
```




```
plt.title('Annual Rainfall from 1901-2017', fontsize=20)
plt.scatter(df.YEAR,df.ANNUAL,c='r',s=1,label='Annual')
plt.legend()
```

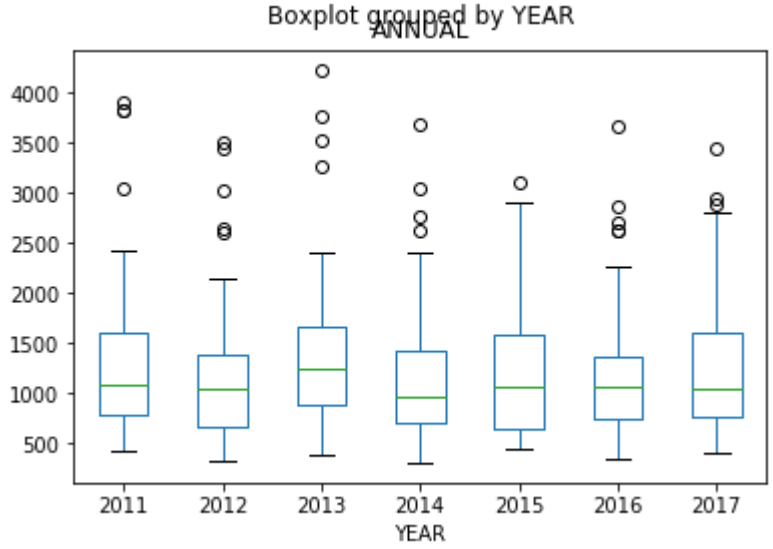
```
<matplotlib.legend.Legend at 0x7f077ad75c50>
```



Box Plot

```
df3=df[df['YEAR']>2010]
df3.boxplot(by ='YEAR', column =['ANNUAL'], grid = False)
```

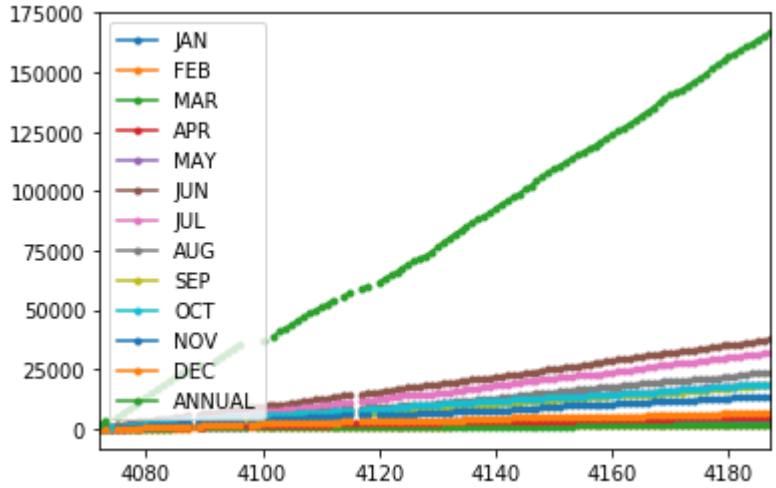
```
<matplotlib.axes._subplots.AxesSubplot at 0x7f077ac9a160>
```



Line Plot

```
df1=df[df['SUBDIVISION']=='Lakshadweep']
df1=df1[[ 'JAN', 'FEB', 'MAR', 'APR', 'MAY', 'JUN', 'JUL',
       'AUG', 'SEP', 'OCT', 'NOV', 'DEC', 'ANNUAL']]


df1 = df1.cumsum();
df1.plot(style='.-')
```

```
<matplotlib.axes._subplots.AxesSubplot at 0x7f077abd6048>
```




```
df2=df[[ 'JAN', 'FEB', 'MAR', 'APR', 'MAY', 'JUN', 'JUL',
       'AUG', 'SEP', 'OCT', 'NOV', 'DEC', 'ANNUAL']]
df2 = df2.cumsum();
df2.plot(style='.-')
```

```
<matplotlib.axes._subplots.AxesSubplot at 0x7f077aacacc0>
```