

```
In [32]: # Importing all necessary Libraries
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sb
import pandas as pd
```

```
In [33]: # Reading Excel file data We can even use comma seperated values files.
df1 = pd.read_excel(r"C:\Users\User\Desktop\Data Science\Dataset\Dataset_Actual\Covid_a
```

```
In [34]: #Checking whether file is imported or not

df1
```

```
Out[34]:
```

	Month-Year	Maharashtra	West Bengal	Kerala	Punjab	MH-TEMP	WB-TEMP	K-TEMP	PJ-TEMP
0	2020-Sept	291900	23218	34380	19384	32	37	34	27
1	2020-Oct	38347	31984	94609	4466	33	34	36	32
2	2020-Nov	46400	26000	83324	6334	36	30	34	24
3	2020-Dec	48800	23964	59873	6881	36	28	34	18
4	2021-Jan	54219	7538	64516	2788	34	34	32	23
5	2021-Feb	35991	4895	72634	2159	32	34	32	24
6	2021-Mar	216540	3155	54949	22652	38	36	36	28

```
In [35]: df1.columns
```

```
Out[35]: Index(['Month-Year', 'Maharashtra', 'West Bengal', 'Kerala', 'Punjab',
               'MH-TEMP', 'WB-TEMP', 'K-TEMP', 'PJ-TEMP'],
              dtype='object')
```

```
In [36]: df1.head()
```

```
Out[36]:
```

	Month-Year	Maharashtra	West Bengal	Kerala	Punjab	MH-TEMP	WB-TEMP	K-TEMP	PJ-TEMP
0	2020-Sept	291900	23218	34380	19384	32	37	34	27
1	2020-Oct	38347	31984	94609	4466	33	34	36	32
2	2020-Nov	46400	26000	83324	6334	36	30	34	24
3	2020-Dec	48800	23964	59873	6881	36	28	34	18
4	2021-Jan	54219	7538	64516	2788	34	34	32	23

```
In [37]: df1['Maharashtra']
```

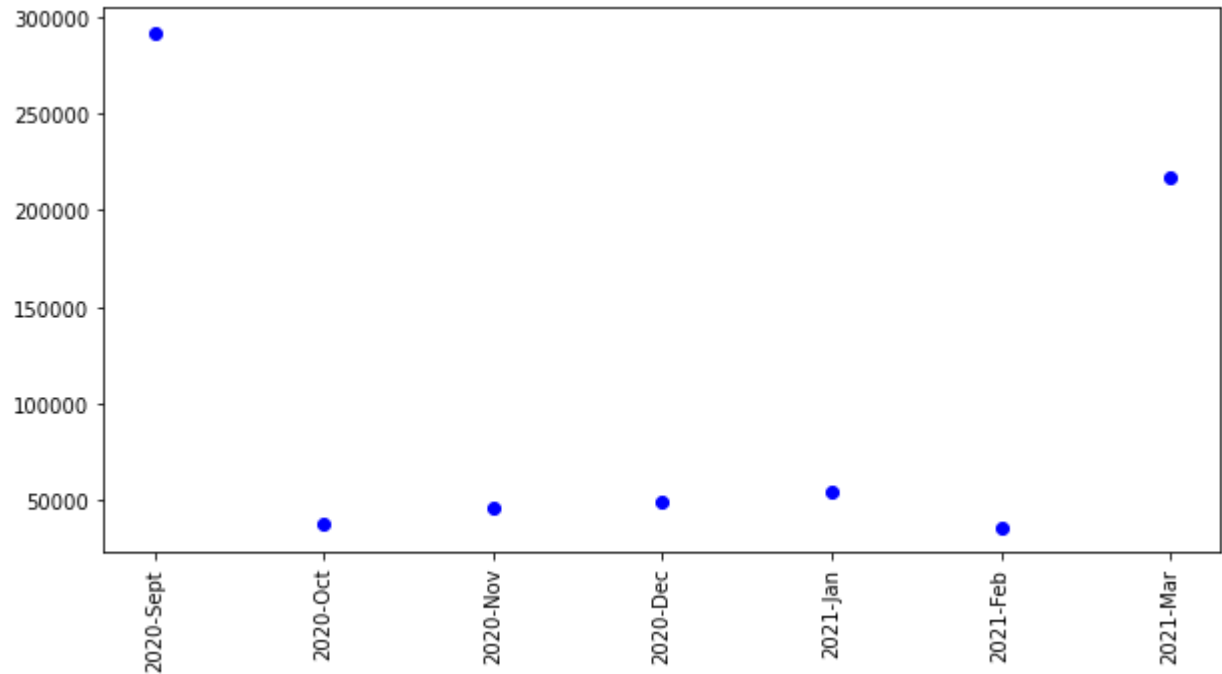
```
Out[37]: 0    291900
1     38347
2     46400
3     48800
4     54219
5     35991
```

6 216540

Name: Maharashtra, dtype: int64

```
In [38]: # Seaborn library use for scatterplot
plt.figure(figsize=(10,5))
plt.xticks(rotation=90)
plt.scatter(df1['Month-Year'],df1['Maharashtra'],c='blue')
```

```
Out[38]: <matplotlib.collections.PathCollection at 0xb538790>
```



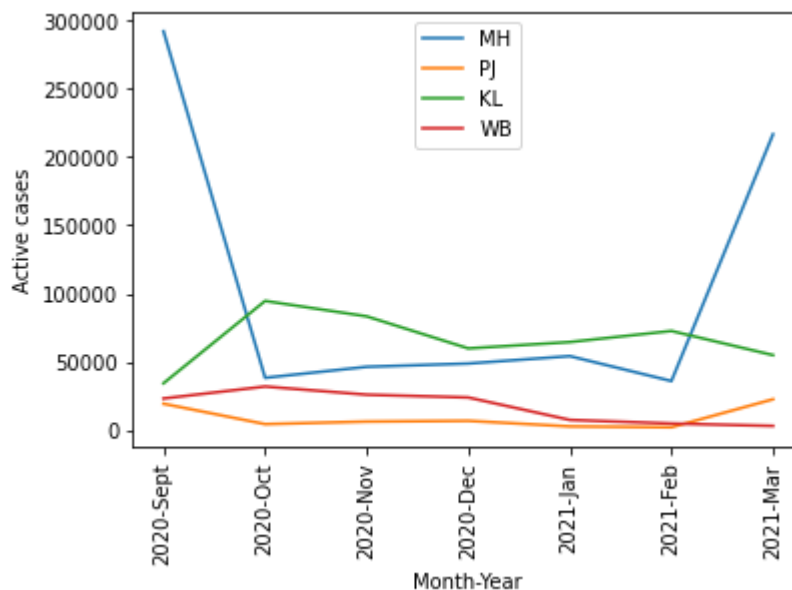
```
In [39]: plt.xticks(rotation=90)
plt.yticks()

plt.plot(df1['Month-Year'],df1['Maharashtra'],label='MH')
plt.plot(df1['Month-Year'],df1['Punjab'],label='PJ')
plt.plot(df1['Month-Year'],df1['Kerala'],label='KL')
plt.plot(df1['Month-Year'],df1['West Bengal'],label='WB')

plt.xlabel("Month-Year")
plt.ylabel("Active cases")

plt.legend()
```

```
Out[39]: <matplotlib.legend.Legend at 0xb590190>
```



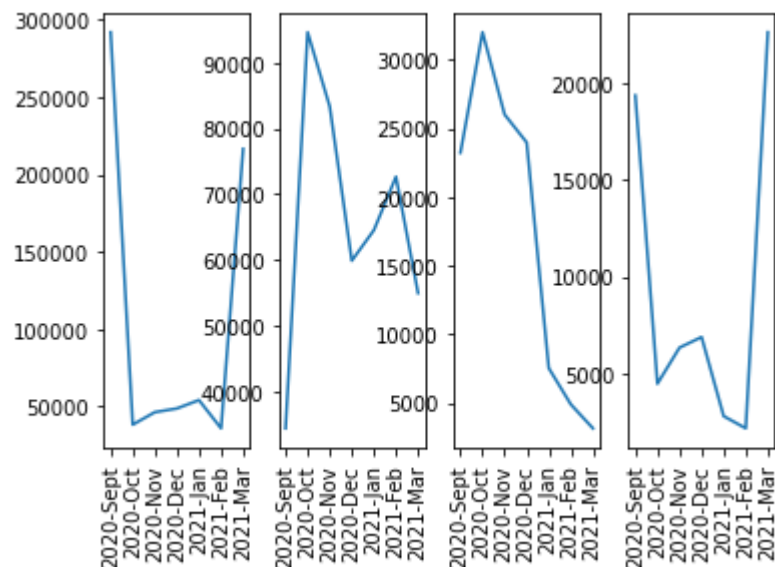
```
In [40]: # User based Data Visualization
print("Select from mentioned state : ")
print("1.Maharashtra")
print("2.Kerala")
print("3.West Bengal")
print("4.Punjab")
graph_num=1
for i in range(1,5):
    val = int(input())

    if(val==1):
        state = "Maharashtra"
    elif val==2:
        state = "Kerala"
    elif val==3:
        state = "West Bengal"
    elif val==4:
        state = "Punjab"
    else:
        print("Wrong Input")
    if(val>=1 and val<=4):
        plt.subplot(1,4,graph_num)
        graph_num=graph_num+1;
        plt.xticks(rotation=90)
        plt.yticks()
        plt.plot(df1['Month-Year'],df1[state],label=state)
        continue

    else:
        print("-----")
```

```
Select from mentioned state :
1.Maharashtra
2.Kerala
3.West Bengal
4.Punjab
```

1  
2  
3  
4



```
In [41]: # Rise in Temperature _____ Analysis_____

print("-----:Temperature data Analysis :-----
-----:Temperature data Analysis :-----
-----")
```

```
In [42]: df1
```

```
Out[42]:
```

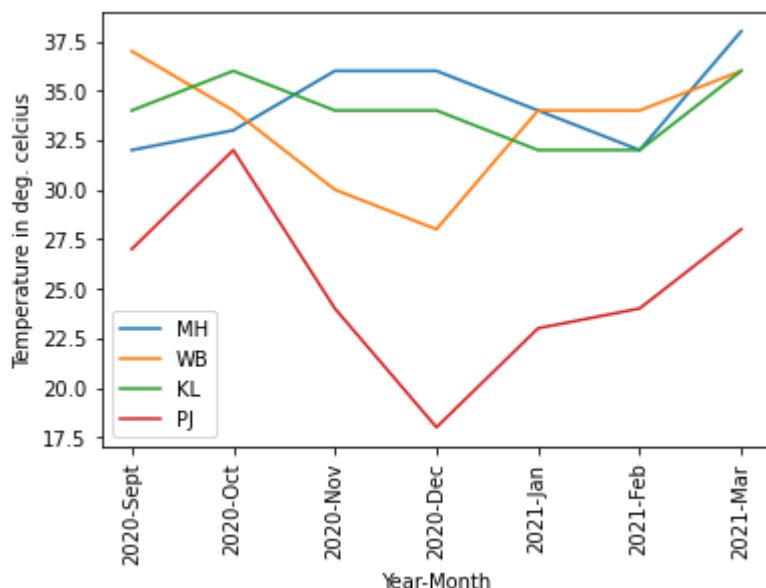
	Month-Year	Maharashtra	West Bengal	Kerala	Punjab	MH-TEMP	WB-TEMP	K-TEMP	PJ-TEMP
0	2020-Sept	291900	23218	34380	19384	32	37	34	27
1	2020-Oct	38347	31984	94609	4466	33	34	36	32
2	2020-Nov	46400	26000	83324	6334	36	30	34	24
3	2020-Dec	48800	23964	59873	6881	36	28	34	18
4	2021-Jan	54219	7538	64516	2788	34	34	32	23
5	2021-Feb	35991	4895	72634	2159	32	34	32	24
6	2021-Mar	216540	3155	54949	22652	38	36	36	28

```
In [43]: plt.xticks(rotation=90)

plt.plot(df1['Month-Year'],df1['MH-TEMP'],label='MH')
plt.plot(df1['Month-Year'],df1['WB-TEMP'],label='WB')
plt.plot(df1['Month-Year'],df1['K-TEMP'],label='KL')
plt.plot(df1['Month-Year'],df1['PJ-TEMP'],label='PJ')

plt.xlabel("Year-Month")
plt.ylabel("Temperature in deg. celcius")
plt.legend()
```

```
Out[43]: <matplotlib.legend.Legend at 0xb5e0940>
```



In [44]: *# Active Covid cases Overall graph*

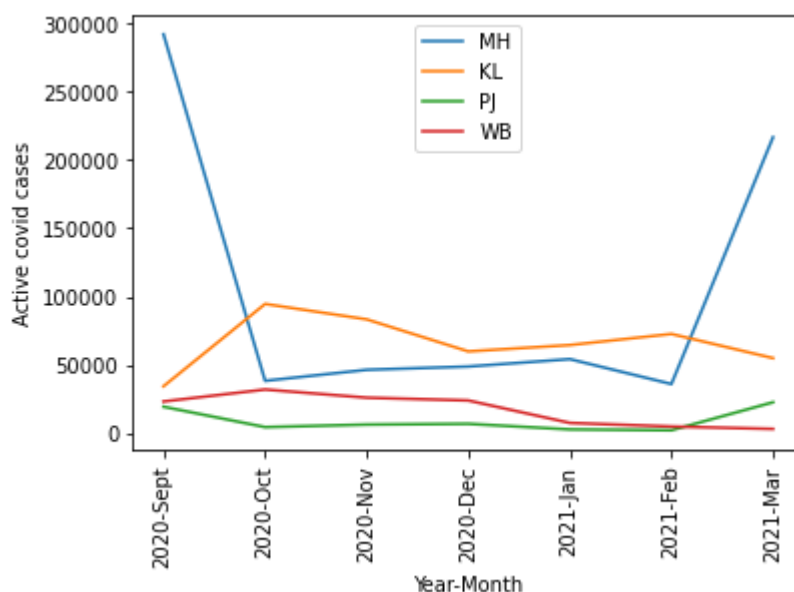
```
print("-----Active covid cases-----")
-----Active covid cases-----
-----
```

In [45]: `plt.xticks(rotation=90)`

```
plt.plot(df1['Month-Year'],df1['Maharashtra'],label='MH')
plt.plot(df1['Month-Year'],df1['Kerala'],label='KL')
plt.plot(df1['Month-Year'],df1['Punjab'],label='PJ')
plt.plot(df1['Month-Year'],df1['West Bengal'],label='WB')

plt.legend()
plt.xlabel("Year-Month")
plt.ylabel("Active covid cases")
```

Out[45]: `Text(0, 0.5, 'Active covid cases')`



In [46]: *# Analysis of side by side Data for conclusion extracting*  
*# Active covid cases*

```
plt.subplot(1,2,1)

plt.xticks(rotation=90)

plt.plot(df1['Month-Year'],df1['Maharashtra'],label='MH')
plt.plot(df1['Month-Year'],df1['Kerala'],label='KL')
plt.plot(df1['Month-Year'],df1['Punjab'],label='PJ')
plt.plot(df1['Month-Year'],df1['West Bengal'],label='WB')

plt.legend()
plt.xlabel("Year-Month")
plt.ylabel("Active covid cases")

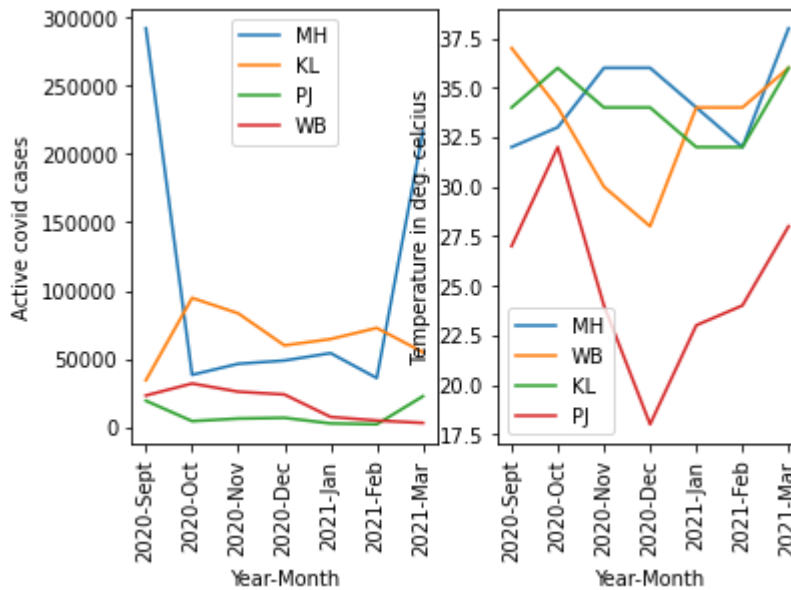
# Temperature data

plt.subplot(1,2,2)
plt.xticks(rotation=90)

plt.plot(df1['Month-Year'],df1['MH-TEMP'],label='MH')
plt.plot(df1['Month-Year'],df1['WB-TEMP'],label='WB')
plt.plot(df1['Month-Year'],df1['K-TEMP'],label='KL')
plt.plot(df1['Month-Year'],df1['PJ-TEMP'],label='PJ')

plt.xlabel("Year-Month")
plt.ylabel("Temperature in deg. celcius")
plt.legend()
```

Out[46]: <matplotlib.legend.Legend at 0xb2a7760>



In [47]: # Here we can see some conclusion like

```
# 1. In Maharashtra region, decrease in covid cases and decrease in temperature Both a
# 2. In Kerala region, Decrease in covid cases and at same time we can see rise in tem
# 3. In Punjab region, we can see two to three spikes where temperature is increasing a
# 4. In West Bengal region , we can see fall in temperature but spike in covid cases.
```

```
# Hence rise and fall in temperature is sometime related to active cases increment. But
# From above data we can conclude that temperature cannont be major factor for increse
# However from biological study, temperature of human body is related to covid test.
```

In [ ]:

