Practical no.5 Submission

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Division:-B Batch:-B4

Subject:- EDS

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#1. Line graph:- States in India vs Annual rainfall
import matplotlib.pyplot as plt
import pandas as pd

data = pd.read_csv('/content/Rainfall.csv')
x = data['STATE_UT_NAME']
y = data['ANNUAL']

plt.plot(x, y)
plt.xlabel('States')
plt.ylabel('Rainfall (in mm)')
plt.xticks(rotation=90)
plt.title('Line Graph')
plt.show()
#2. Line graph:- All Districts in India vs Annual rainfall
import matplotlib.pyplot as plt
import pandas as pd

data = pd.read_csv('/content/Rainfall.csv')
x = data['DISTRICT']
y = data['ANNUAL']

plt.plot(x, y)
plt.xlabel('Districts')
plt.ylabel('Rainfall (in mm)')
plt.xticks(rotation=90)
plt.title('Line Graph')
plt.show()
#3. Line graph:- All Districts in Maharashtra vs Annual Rainfall
import matplotlib.pyplot as plt
import pandas as pd

data = pd.read_csv('/content/Rainfall.csv')

state = 'MAHARASHTRA'
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state_data = data[data['STATE_UT_NAME'] == state]
districts = state_data['DISTRICT']
rainfall = state_data['ANNUAL']

plt.plot(districts, rainfall)
plt.xlabel('District')
plt.ylabel('Rainfall (in mm)')
plt.title(f'Annual Rainfall in {state} District-wise')
plt.xticks(rotation=90)
plt.tight_layout()
plt.show()
#4. Line graph:- All Districts in HARYANA vs Rainfall in a particular
month
import matplotlib.pyplot as plt
import pandas as pd

data = pd.read_csv('/content/Rainfall.csv')

state = 'HARYANA'

state_data = data[data['STATE_UT_NAME'] == state]
districts = state_data['DISTRICT']
rainfall = state_data['JUL']

plt.plot(districts, rainfall)
plt.xlabel('District')
plt.ylabel('Rainfall in July (in mm)')
plt.title(f'Rainfall in the month of July in {state}')
plt.xticks(rotation=90)
plt.tight_layout()
plt.show()
#5. Bar graph:- All Districts in Maharashtra vs Annual Rainfall
import matplotlib.pyplot as plt
import pandas as pd

data = pd.read_csv('/content/Rainfall.csv')

state = 'MAHARASHTRA'

state_data = data[data['STATE_UT_NAME'] == state]
districts = state_data['DISTRICT']
rainfall = state_data['ANNUAL']

plt.bar(districts, rainfall)
plt.xlabel('District')
plt.ylabel('Rainfall (in mm)')
plt.title(f'Annual Rainfall in {state} District-wise')
```

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plt.xticks(rotation=90)
plt.tight_layout()
plt.show()
#6. Bar graph:- All Districts in HIMACHAL vs Rainfall in a particular
month
import matplotlib.pyplot as plt
import pandas as pd

data = pd.read_csv('/content/Rainfall.csv')

state = 'HIMACHAL'

state_data = data[data['STATE_UT_NAME'] == state]
districts = state_data['DISTRICT']
rainfall = state_data['JUL']

plt.bar(districts, rainfall)
plt.xlabel('District')
plt.ylabel('Rainfall in July (in mm)')
plt.title(f'Rainfall in the month of July in {state}')
plt.xticks(rotation=90)
plt.tight_layout()
plt.show()
#7. Bar graph:- States in India vs Annual rainfall
import matplotlib.pyplot as plt
import pandas as pd

data = pd.read_csv('/content/Rainfall.csv')
x = data['STATE_UT_NAME']
y = data['ANNUAL']

plt.bar(x, y)
plt.xlabel('States')
plt.ylabel('Rainfall (in mm)')
plt.xticks(rotation=90)
plt.title('Bar Graph')
plt.show()
#8. Histogram:- States in India vs Annual rainfall
import matplotlib.pyplot as plt
import pandas as pd

data = pd.read_csv('/content/Rainfall.csv')
x = data['STATE_UT_NAME']
y = data['ANNUAL']

plt.hist(x, bins=100)
plt.xlabel('States')
plt.ylabel('Rainfall (in mm)')
```

```
plt.xticks(rotation=90)
plt.title('Histogram')
plt.show()
#9. Histogram:- All Districts in Maharashtra vs Rainfall in a
particular month
import matplotlib.pyplot as plt
import pandas as pd

data = pd.read_csv('/content/Rainfall.csv')

state = 'WEST BENGAL'

state_data = data[data['STATE_UT_NAME'] == state]
districts = state_data['DISTRICT']
rainfall = state_data['JUL']

plt.hist(districts, bins=200)
plt.xlabel('District')
plt.ylabel('Rainfall in July (in mm)')
plt.title(f'Rainfall in the month of July in {state}')
plt.xticks(rotation=90)
plt.tight_layout()
plt.show()
#10. Bar graph:- All Districts in any State vs Annual Rainfall
import matplotlib.pyplot as plt
import pandas as pd

data = pd.read_csv('/content/Rainfall.csv')

state = input("Enter the state:")
state=str.upper(state)

state_data = data[data['STATE_UT_NAME'] == state]
districts = state_data['DISTRICT']
rainfall = state_data['ANNUAL']

plt.bar(districts, rainfall)
plt.xlabel('District')
plt.ylabel('Rainfall (in mm)')
plt.title(f'Annual Rainfall in {state} District-wise')
plt.xticks(rotation=90)
plt.tight_layout()
plt.show()
#11. Histogram:- All Districts in any State vs Annual Rainfall
import matplotlib.pyplot as plt
import pandas as pd

data = pd.read_csv('/content/Rainfall.csv')
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```
state = input("Enter the state:")
state=str.upper(state)

state_data = data[data['STATE_UT_NAME'] == state]
districts = state_data['DISTRICT']
rainfall = state_data['ANNUAL']

plt.hist(districts, bins=100)
plt.xlabel('District')
plt.ylabel('Rainfall (in mm)')
plt.title(f'Annual Rainfall in {state} District-wise')
plt.xticks(rotation=90)
plt.tight_layout()
plt.show()
#12. Pie chart:- All Districts in any State vs Annual Rainfall
import matplotlib.pyplot as plt
import pandas as pd

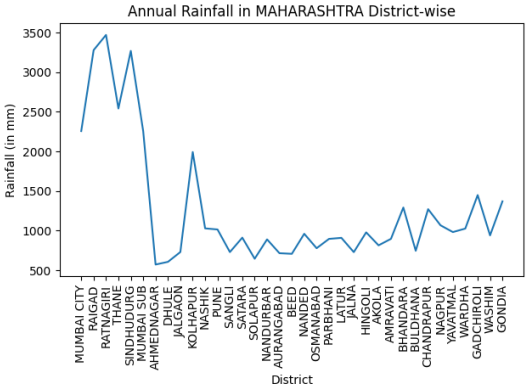
data = pd.read_csv('/content/Rainfall.csv')

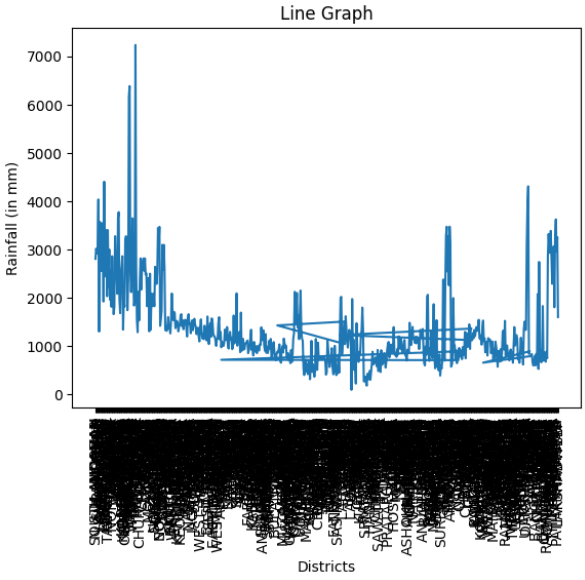
state = input("Enter the state:")
state=str.upper(state)

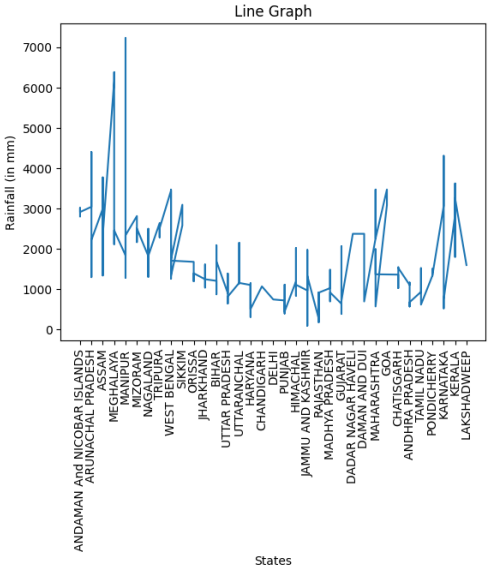
state_data = data[data['STATE_UT_NAME'] == state]
districts = state_data['DISTRICT']
rainfall = state_data['ANNUAL']

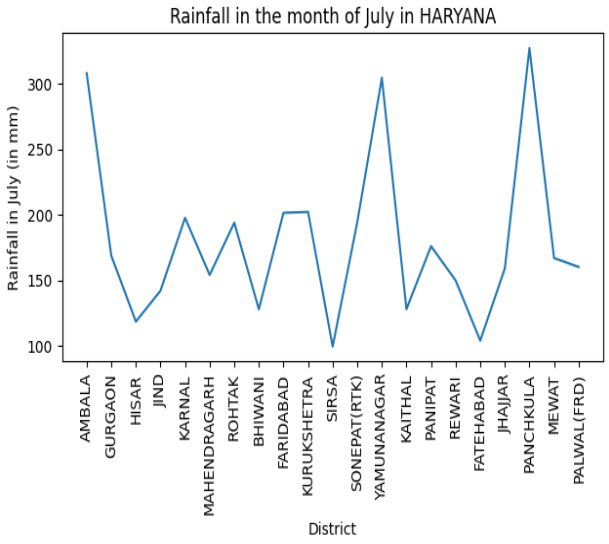
plt.pie(rainfall, labels=districts, autopct='%1.1f%%')
plt.axis('equal')
plt.title(f'Annual Rainfall in {state} District-wise')
plt.show()
```

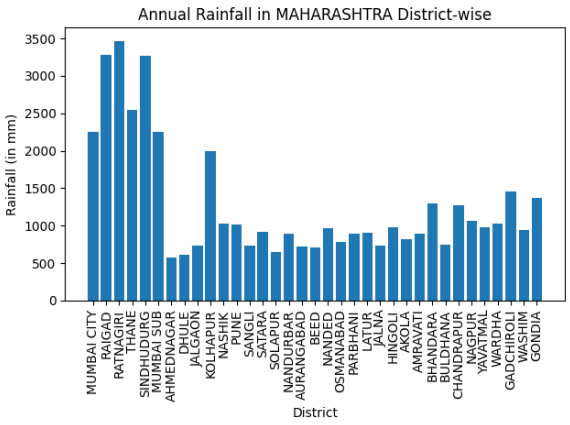
Outputs:-

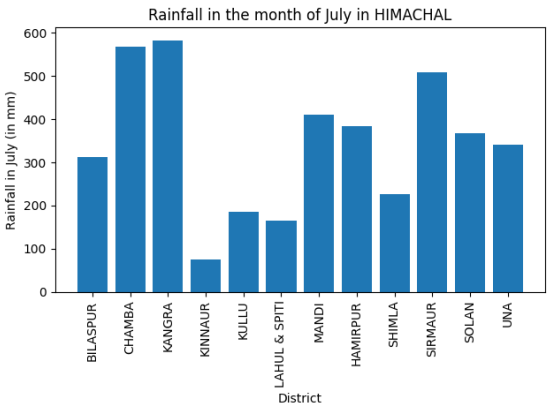

Annual Rainfall in MAHARASHTRA District-wise
Rainfall (in mm)
District
MUMBAI CITY
RAIGAD
RATNAGIRI
THANE
SINDHUDURG
MUMBAI SUB
AHMEDNAGAR
DHULE
JALGAON
KOLHAPUR
NASHIK
PUNE
SANGLI
SATARA
SOLAPUR
NANDURBAR
AURANGABAD
BEED
NANDED
OSMANABAD
PARBHANI
LATUR
JALNA
HINGOLI
AKOLA
AMRAVATI
BHANDARA
BULDHANA
CHANDRAPUR
NAGPUR
YAVATMAL
WARDHA
GADCHIROLI
WASHIM
GONDIA

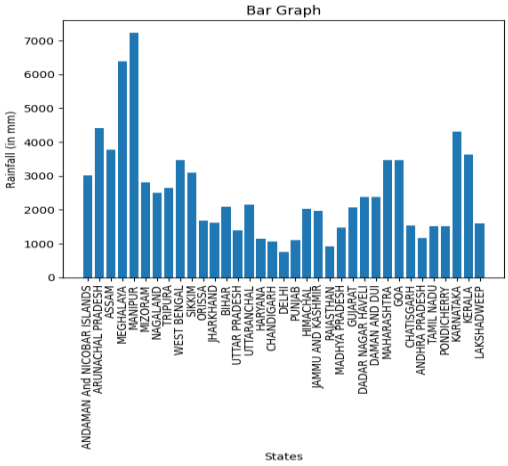

Line Graph
Rainfall (in mm)
Districts

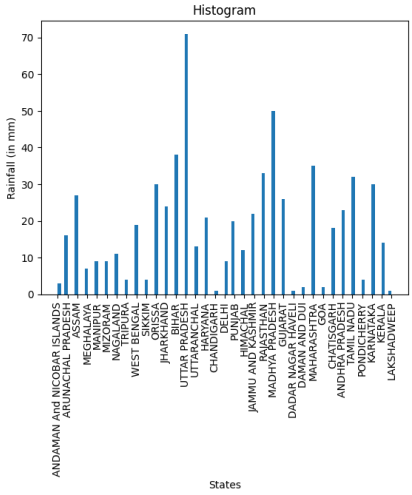

Line Graph
Rainfall (in mm)
States
ANDAMAN And NICOBAR ISLANDS
ARUNACHAL PRADESH
ASSAM
MEGHALAYA
MANIPUR
MIZORAM
NAGALAND
TRIPURA
WEST BENGAL
SIKKIM
ORISSA
JHARKHAND
BIHAR
UTTAR PRADESH
UTTARANCHAL
HARYANA
CHANDIGARH
DELHI
PUNJAB
HIMACHAL
JAMMU AND KASHMIR
RAJASTHAN
MADHYA PRADESH
GUJARAT
DADAR NAGAR HAVELI
DAMAN AND DIU
MAHARASHTRA
GOA
CHATTISGARH
ANDHRA PRADESH
TAMIL NADU
PONDICHERRY
KARNATAKA
KERALA
LAKSHADWEEP

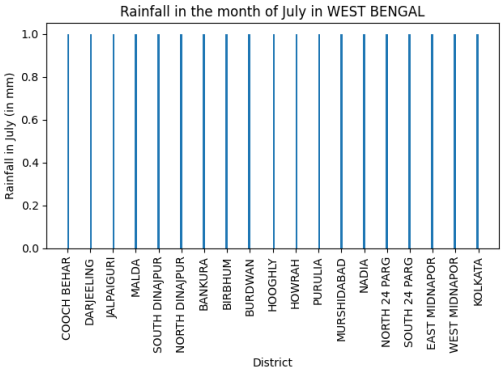

Rainfall in the month of July in HARYANA
Rainfall in July (in mm)
District
AMBALA
GURGAON
HISAR
JIND
KARNAL
MAHENDRAGARH
ROHTAK
BHIWANI
FARIDABAD
KURUKSHETRA
SIRSA
SONEPAT(RTK)
YAMUNANAGAR
KAITHAL
PANIPAT
REWARI
FATEHABAD
JHAJJAR
PANCHKULA
MEWAT
PALWAL(FRD)

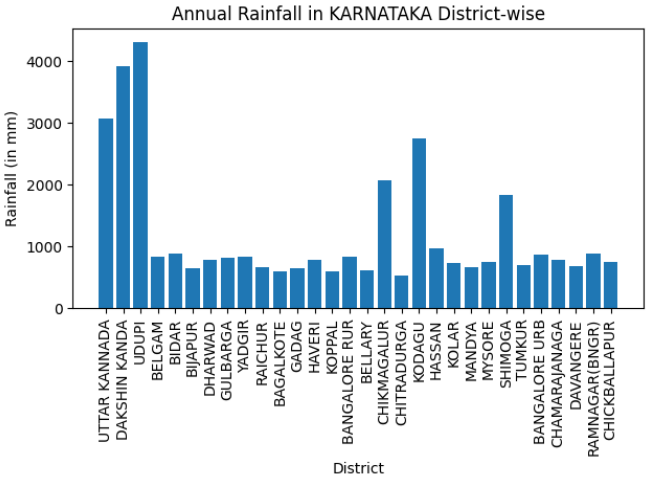

Annual Rainfall in MAHARASHTRA District-wise
Rainfall (in mm)
District
MUMBAI CITY
RAIGAD
RATNAGIRI
THANE
SINDHUDURG
MUMBAI SUB
AHMEDNAGAR
DHULE
JALGAON
KOLHAPUR
NASHIK
PUNE
SANGLI
SATARA
SOLAPUR
NANDURBAR
AURANGABAD
BEED
NANDED
OSMANABAD
PARBHANI
LATUR
JALNA
HINGOLI
AKOLA
AMRAVATI
BHANDARA
BULDHANA
CHANDRAPUR
NAGPUR
YAVATMAL
WARDHA
GADCHIROLI
WASHIM
GONDIA

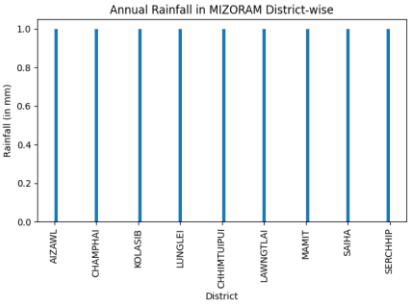

Rainfall in the month of July in HIMACHAL
Rainfall in July (in mm)
District
BILASPUR
CHAMBA
KANGRA
KINNAUR
KULLU
LAHUL & SPITI
MANDI
HAMIRPUR
SHIMLA
SIRMAUR
SOLAN
UNA

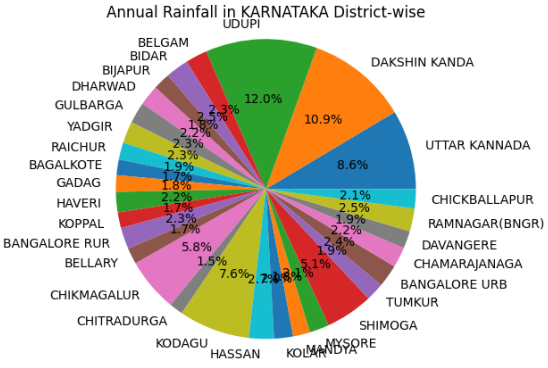

Bar Graph
Rainfall (in mm)
States


Histogram
Rainfall (in mm)
States


Rainfall in the month of July in WEST BENGAL
Rainfall in July (in mm)
District


Annual Rainfall in KARNATAKA District-wise
Rainfall (in mm)
District


Annual Rainfall in MIZORAM District-wise
Rainfall (in mm)
District


Annual Rainfall in KARNATAKA District-wise