In [20]:   1   `import pandas as pd`

In [21]:   1   `data=pd.read_csv('arunachal.csv')`

In [22]:   1   `data.head()`

Out[22]:

	Unnamed: 0	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	Jan-Feb	Mar-May	
0	110	ARUNACHAL PRADESH	1916	48.1	69.8	71.1	316.1	424.6	1124.9	NaN	629.7	333.9	NaN	NaN	NaN	NaN	117.9	811.8	
1	111	ARUNACHAL PRADESH	1917	21.4	164.5	NaN	269.6	107.9	823.8	909.1	628.4	411.5	199.3	63.5	0.0	NaN	185.9	NaN	2
2	112	ARUNACHAL PRADESH	1918	10.4	11.0	191.2	144.6	861.1	1609.9	1303.0	692.6	515.8	125.2	7.8	13.7	5486.3	21.4	1196.9	4
3	113	ARUNACHAL PRADESH	1919	34.5	67.8	28.5	256.9	420.6	973.6	999.0	286.7	628.7	948.3	40.7	8.6	4693.9	102.3	706.0	2
4	114	ARUNACHAL PRADESH	1920	14.0	196.3	605.6	364.7	173.6	840.6	535.4	896.5	376.7	103.3	0.0	0.0	4106.7	210.3	1143.9	2

In [23]:   1   `data.shape`

Out[23]: `(91, 20)`

```
In [24]:   1  list(data)
```

Out[24]: ['Unnamed: 0',
         'SUBDIVISION',
         'YEAR',
         'JAN',
         'FEB',
         'MAR',
         'APR',
         'MAY',
         'JUN',
         'JUL',
         'AUG',
         'SEP',
         'OCT',
         'NOV',
         'DEC',
         'ANNUAL',
         'Jan-Feb',
         'Mar-May',
         'Jun-Sep',
         'Oct-Dec']

In [25]:
```python
1  data.isna().sum()
2  #it returns the no.of null values in each coloumn
```

Out[25]:
```
Unnamed: 0      0
SUBDIVISION     0
YEAR            0
JAN             1
FEB             1
MAR             2
APR             0
MAY             0
JUN             1
JUL             1
AUG             0
SEP             0
OCT             2
NOV             2
DEC             2
ANNUAL          6
Jan-Feb         1
Mar-May         2
Jun-Sep         2
Oct-Dec         3
dtype: int64
```

In [26]:
```python
1  data=data.fillna(data.mode())
```

In [27]:
```python
1  data.head()
```

Out[27]:

	Unnamed: 0	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	Jan-Feb	Mar-May
0	110	ARUNACHAL PRADESH	1916	48.1	69.8	71.1	316.1	424.6	1124.9	593.0	629.7	333.9	58.5	7.8	0.0	1668.5	117.9	811.8
1	111	ARUNACHAL PRADESH	1917	21.4	164.5	32.9	269.6	107.9	823.8	909.1	628.4	411.5	199.3	63.5	0.0	1749.9	185.9	379.7
2	112	ARUNACHAL PRADESH	1918	10.4	11.0	191.2	144.6	861.1	1609.9	1303.0	692.6	515.8	125.2	7.8	13.7	5486.3	21.4	1196.9
3	113	ARUNACHAL PRADESH	1919	34.5	67.8	28.5	256.9	420.6	973.6	999.0	286.7	628.7	948.3	40.7	8.6	4693.9	102.3	706.0
4	114	ARUNACHAL PRADESH	1920	14.0	196.3	605.6	364.7	173.6	840.6	535.4	896.5	376.7	103.3	0.0	0.0	4106.7	210.3	1143.9

In [28]:
```python
1  data.describe()
```

Out[28]:

	Unnamed: 0	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
count	91.00000	91.000000	90.000000	90.000000	91.000000	91.000000	91.000000	91.000000	91.000000	91.000000	91.000000
mean	155.00000	1962.747253	48.598889	93.966667	152.890110	262.990110	364.651648	657.869231	710.656044	502.163736	433.273626
std	26.41338	27.695003	34.687078	46.258375	87.886609	113.395773	181.095447	310.323824	354.606572	275.716730	204.991358
min	110.00000	1916.000000	1.800000	6.100000	28.500000	94.700000	101.800000	239.400000	233.000000	172.400000	152.500000
25%	132.50000	1938.500000	20.075000	65.625000	101.650000	180.600000	237.150000	427.050000	446.000000	301.100000	282.150000
50%	155.00000	1964.000000	45.400000	87.600000	139.900000	245.400000	314.600000	543.500000	611.600000	411.600000	384.300000
75%	177.50000	1986.500000	65.150000	120.400000	187.100000	335.300000	447.050000	840.200000	920.950000	669.200000	521.150000
max	200.00000	2009.000000	164.500000	208.500000	605.600000	595.100000	1168.600000	1609.900000	2362.800000	1664.600000	1222.000000

```
In [32]:  1  data1=pd.read_csv('rainfall in india 1901-2015.csv')
```

```
In [33]:  1  data1.to_string()
```

```
Out[33]: '                   SUBDIVISION  YEAR   JAN    FEB    MAR    APR    MAY     JUN    JUL     A
UG    SEP    OCT    NOV    DEC  ANNUAL  Jan-Feb  Mar-May  Jun-Sep  Oct-Dec\n0          ANDAMAN & NIC
OBAR ISLANDS  1901   49.2   87.1   29.2    2.3  528.8  517.5  365.1  481.1  332.6  388.5  558.2    3
3.6  3373.2   136.3    560.3   1696.3    980.3\n1          ANDAMAN & NICOBAR ISLANDS  1902    0.0  1
59.8   12.2    0.0  446.1  537.1  228.9  753.7  666.2  197.2  359.0  160.5  3520.7    159.8    458.3
2185.9    716.7\n2          ANDAMAN & NICOBAR ISLANDS  1903   12.7  144.0    0.0    1.0  235.1    47
9.9  728.4  326.7  339.0  181.2  284.4  225.0  2957.4    156.7    236.1   1874.0    690.6\n3
ANDAMAN & NICOBAR ISLANDS  1904    9.4   14.7    0.0  202.4  304.5  495.1  502.0  160.1  820.4  222.
2  308.7   40.1  3079.6     24.1    506.9   1977.6    571.0\n4          ANDAMAN & NICOBAR ISLANDS  19
05    1.3    0.0    3.3   26.9  279.5  628.7  368.7  330.5  297.0  260.7   25.4  344.7  2566.7
1.3    309.7   1624.9    630.8\n5          ANDAMAN & NICOBAR ISLANDS  1906   36.6    0.0    0.0    0.
0  556.1  733.3  247.7  320.5  164.3  267.8  128.9   79.2  2534.4     36.6    556.1   1465.8    475.
9\n6          ANDAMAN & NICOBAR ISLANDS  1907  110.7    0.0  113.3   21.6  616.3  305.2  443.9    3
77.6  200.4  264.4  648.9  245.6  3347.9    110.7    751.2   1327.1   1158.9\n7          ANDAMAN & N
ICOBAR ISLANDS  1908   20.9   85.1    0.0   29.0  562.0  693.6  481.4  699.9  428.8  170.7  208.1  1
96.9  3576.4    106.0    591.0   2303.7    575.7\n8          ANDAMAN & NICOBAR ISLANDS  1910   26.6
22.7  206.3   89.3  224.5  472.7  264.3  337.4  626.6  208.2  267.3  153.5  2899.4     49.3    520.1
1701.0    629.0\n9          ANDAMAN & NICOBAR ISLANDS  1911    0.0    8.4    0.0  122.5  327.3   64
9.0  253.0  187.1  464.5  333.8   94.5  247.1  2687.2      8.4    449.8   1553.6    675.4\n10
ANDAMAN & NICOBAR ISLANDS  1912  583.7    0.8    0.0   31.0  140.7  549.8  468.0  270.3  386.2  318
```

In [35]:
```
1 data1.groupby(['SUBDIVISION']).sum()
```

Out[35]:

SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
ANDAMAN & NICOBAR ISLANDS	215481	5790.1	3079.4	3437.0	7800.1	38919.2	50930.7	43204.6	43205.1	47024.6	31348.6	25244.4	16386.5	304453.7
ARUNACHAL PRADESH	190685	4540.6	8747.2	14585.1	25592.1	34776.7	62147.9	66676.3	48037.3	41917.0	18495.2	3391.2	2327.7	311116.0
ASSAM & MEGHALAYA	225170	1952.1	3615.8	9088.1	23358.3	39277.0	58668.6	56936.8	46528.2	35734.5	17493.6	3097.9	1029.4	296780.0
BIHAR	225170	1539.4	1655.3	1164.3	1945.6	6104.4	20046.3	37310.8	34459.0	24999.2	7253.6	825.5	424.9	137727.9
CHHATTISGARH	225170	1633.8	2214.8	1755.7	1928.9	2420.6	22800.6	45836.4	44835.4	25044.7	7320.9	1353.8	603.6	157748.8
COASTAL ANDHRA PRADESH	225170	860.6	1486.2	1520.5	3075.2	7193.2	14224.8	19989.8	20231.2	20896.4	21333.8	8958.9	1313.3	121084.0
COASTAL KARNATAKA	225170	220.9	174.6	731.1	3555.4	14120.6	96752.5	129608.3	82066.1	34460.0	21223.5	7314.9	1450.6	388558.7
EAST MADHYA PRADESH	225170	2231.2	2149.8	1568.3	826.7	1066.4	16218.4	42708.5	42477.4	22337.2	4563.9	1461.1	966.5	138575.0
EAST RAJASTHAN	225170	738.6	623.0	519.4	361.6	1129.3	7290.9	25685.0	25101.9	11267.5	1651.5	560.5	419.9	75349.8
EAST UTTAR PRADESH	225170	1841.4	1825.5	1024.4	739.5	1979.3	12731.9	33415.4	31695.6	21228.0	4935.9	527.9	664.3	112609.5
GANGETIC WEST BENGAL	225170	1448.5	2582.0	3345.4	5161.8	12395.6	28427.6	37533.4	35809.0	28256.7	13310.8	2481.6	654.4	171406.1
GUJARAT REGION	225170	205.4	137.0	140.4	128.4	668.1	13947.7	40125.9	29807.2	17116.8	2365.0	796.8	154.0	105596.5
HARYANA DELHI & CHANDIGARH	225170	1942.3	2004.9	1487.6	877.9	1671.4	5592.0	17251.8	17346.7	10155.3	1474.7	375.4	826.4	61007.1
HIMACHAL PRADESH	225170	9681.8	10452.9	11631.8	7179.3	6688.0	10490.4	32232.7	31502.3	14975.2	3597.0	1920.0	4587.7	144939.7

SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
JAMMU & KASHMIR	225170	11733.5	13276.8	15108.5	10775.8	7759.8	7387.0	20501.5	20811.9	10268.3	3929.2	2751.2	6318.5	129924.0
JHARKHAND	225170	2026.5	2781.4	2118.7	2227.2	5556.5	22377.7	38752.2	37435.3	26153.5	9201.8	1371.2	568.0	150569.9
KERALA	225170	1408.4	1782.1	4233.7	12716.0	26436.4	75244.8	80609.6	48527.4	28246.2	33824.1	18809.4	4594.3	336431.1
KONKAN & GOA	225170	145.2	62.9	158.1	490.6	3854.3	79185.5	123398.5	78517.0	40224.7	13039.5	2837.2	519.4	342433.9
LAKSHADWEEP	223252	3079.4	1789.3	1607.3	5058.3	18356.1	36694.3	31294.1	23295.3	18111.9	18506.8	13482.8	6689.2	163861.3
MADHYA MAHARASHTRA	225170	351.3	168.8	413.6	1051.9	2638.5	16954.0	28632.7	21205.7	18080.5	8072.4	2983.7	672.6	101226.8
MATATHWADA	225170	575.1	511.0	817.1	873.4	1799.4	15750.1	20774.6	19145.7	20524.8	6736.7	2580.2	839.8	90929.6
NAGA MANI MIZO TRIPURA	225170	1612.9	4215.0	8877.9	19634.3	33446.5	51247.9	50448.7	47297.4	36150.3	20125.7	5385.9	1425.9	279866.2
NORTH INTERIOR KARNATAKA	225170	346.5	364.8	819.2	2794.6	5409.1	11614.2	15931.1	13737.8	16438.2	11004.2	3358.9	727.7	82546.5
ORISSA	225170	1417.9	2267.7	2430.5	3928.4	7461.9	24249.0	40384.9	40869.0	27761.4	13063.1	3215.6	640.3	167689.5
PUNJAB	225170	2903.3	3080.5	2719.9	1455.9	1625.7	5343.7	19430.8	18189.3	9980.8	1591.2	476.1	1459.9	68256.6
RAYALSEEMA	225170	1134.8	653.2	928.8	2278.0	5804.7	7445.4	11049.4	12363.8	15147.8	15562.7	11805.2	3939.9	88113.7
SAURASHTRA & KUTCH	225170	131.0	185.8	149.1	136.1	536.2	8552.7	22421.6	13658.6	8673.1	1668.7	701.1	127.5	56943.6
SOUTH INTERIOR KARNATAKA	225170	336.8	478.8	1090.8	4862.3	10591.5	16263.0	26606.3	20037.5	15791.1	16001.5	6259.6	1324.5	119645.0
SUB HIMALAYAN WEST BENGAL & SIKKIM	225170	1619.6	2642.1	4960.6	12728.4	30951.5	61856.4	74336.3	59887.8	48454.3	16519.3	1850.2	696.9	316505.0
TAMIL NADU	225170	2739.2	1543.6	2239.7	5174.5	8040.9	5986.5	8201.2	11027.1	12833.7	21067.6	20343.9	9330.8	108527.0
TELANGANA	225170	885.8	1114.2	1450.7	2091.3	2918.0	16344.5	28462.4	24731.8	20182.9	8536.1	2328.8	591.3	109638.5
UTTARAKHAND	225170	6186.7	7297.0	6586.3	4044.1	6363.9	18693.4	44930.3	43932.7	22551.1	4493.5	941.6	2534.1	168555.1
VIDARBHA	225170	1214.8	1378.0	1365.3	1085.1	1328.4	19961.5	37884.3	32884.2	20176.7	5997.1	1791.1	911.7	125977.8

	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
SUBDIVISION														
WEST MADHYA PRADESH	225170	1062.8	719.1	594.9	273.2	880.6	12854.9	34843.0	33132.5	18534.4	3230.0	1419.2	724.1	107656.9
WEST RAJASTHAN	225170	382.7	567.0	458.4	410.7	1086.0	3293.3	10944.7	10873.9	4639.4	589.7	191.7	218.8	33657.4
WEST UTTAR PRADESH	225170	2031.6	2057.8	1318.1	719.1	1415.2	8923.7	28349.8	28899.4	16819.3	3309.4	456.1	818.2	95118.2

In [ ]: 1