In [26]: `import pandas as pd`

In [27]: `data=pd.read_csv("/home/placement/Downloads/rainfall in india 1901-2015.csv")`

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

Out[28]:

	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
count	4116.000000	4112.000000	4113.000000	4110.000000	4112.000000	4113.000000	4111.000000	4109.000000	4112.000000	4110.000000	4109.0
mean	1958.218659	18.957320	21.805325	27.359197	43.127432	85.745417	230.234444	347.214334	290.263497	197.361922	95.5
std	33.140898	33.585371	35.909488	46.959424	67.831168	123.234904	234.710758	269.539667	188.770477	135.408345	99.5
min	1901.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.400000	0.000000	0.000000	0.100000	0.0
25%	1930.000000	0.600000	0.600000	1.000000	3.000000	8.600000	70.350000	175.600000	155.975000	100.525000	14.0
50%	1958.000000	6.000000	6.700000	7.800000	15.700000	36.600000	138.700000	284.800000	259.400000	173.900000	65.2
75%	1987.000000	22.200000	26.800000	31.300000	49.950000	97.200000	305.150000	418.400000	377.800000	265.800000	148.4
max	2015.000000	583.700000	403.500000	605.600000	595.100000	1168.600000	1609.900000	2362.800000	1664.600000	1222.000000	948.3

In [29]: `list(data)`

Out[29]:
```
['SUBDIVISION',
 'YEAR',
 'JAN',
 'FEB',
 'MAR',
 'APR',
 'MAY',
 'JUN',
 'JUL',
 'AUG',
 'SEP',
 'OCT',
 'NOV',
 'DEC',
 'ANNUAL',
 'Jan-Feb',
 'Mar-May',
 'Jun-Sep',
 'Oct-Dec']
```

In [30]: `data["SUBDIVISION"].unique()`

Out[30]:
```
array(['ANDAMAN & NICOBAR ISLANDS', 'ARUNACHAL PRADESH',
       'ASSAM & MEGHALAYA', 'NAGA MANI MIZO TRIPURA',
       'SUB HIMALAYAN WEST BENGAL & SIKKIM', 'GANGETIC WEST BENGAL',
       'ORISSA', 'JHARKHAND', 'BIHAR', 'EAST UTTAR PRADESH',
       'WEST UTTAR PRADESH', 'UTTARAKHAND', 'HARYANA DELHI & CHANDIGARH',
       'PUNJAB', 'HIMACHAL PRADESH', 'JAMMU & KASHMIR', 'WEST RAJASTHAN',
       'EAST RAJASTHAN', 'WEST MADHYA PRADESH', 'EAST MADHYA PRADESH',
       'GUJARAT REGION', 'SAURASHTRA & KUTCH', 'KONKAN & GOA',
       'MADHYA MAHARASHTRA', 'MATATHWADA', 'VIDARBHA', 'CHHATTISGARH',
       'COASTAL ANDHRA PRADESH', 'TELANGANA', 'RAYALSEEMA', 'TAMIL NADU',
       'COASTAL KARNATAKA', 'NORTH INTERIOR KARNATAKA',
       'SOUTH INTERIOR KARNATAKA', 'KERALA', 'LAKSHADWEEP'], dtype=object)
```

In [31]: `data=data.groupby(['SUBDIVISION']).count()`

In [32]: `data`

Out[32]:

SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	Jan-Feb	Mar-May	Jun-Sep	Oct-Dec
ANDAMAN & NICOBAR ISLANDS	110	110	110	108	108	109	108	108	108	107	108	108	107	104	110	107	107	107
ARUNACHAL PRADESH	97	96	96	95	97	97	96	96	97	97	95	95	95	91	96	95	95	94
ASSAM & MEGHALAYA	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
BIHAR	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
CHHATTISGARH	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
COASTAL ANDHRA PRADESH	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
COASTAL KARNATAKA	115	114	115	115	115	115	115	115	115	115	115	115	115	114	114	115	115	115
EAST MADHYA PRADESH	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
EAST RAJASTHAN	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
EAST UTTAR PRADESH	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
GANGETIC WEST BENGAL	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
GUJARAT REGION	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
HARYANA DELHI & CHANDIGARH	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
HIMACHAL PRADESH	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
JAMMU & KASHMIR	115	115	115	115	115	115	115	114	115	115	115	114	114	114	115	115	114	114
JHARKHAND	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
KERALA	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
KONKAN & GOA	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
LAKSHADWEEP	114	112	113	112	112	112	112	111	112	111	111	108	110	103	111	110	110	108
MADHYA MAHARASHTRA	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
MATATHWADA	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115

SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	Jan-Feb	Mar-May	Jun-Sep	Oct-Dec
NAGA MANI MIZO TRIPURA	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
NORTH INTERIOR KARNATAKA	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
ORISSA	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
PUNJAB	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
RAYALSEEMA	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
SAURASHTRA & KUTCH	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
SOUTH INTERIOR KARNATAKA	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
SUB HIMALAYAN WEST BENGAL & SIKKIM	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
TAMIL NADU	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
TELANGANA	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
UTTARAKHAND	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
VIDARBHA	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
WEST MADHYA PRADESH	115	115	114	115	115	115	115	115	115	115	115	115	115	114	114	115	115	115
WEST RAJASTHAN	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
WEST UTTAR PRADESH	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115

In [33]: `data.isna().sum()`

Out[33]:
```
YEAR        0
JAN         0
FEB         0
MAR         0
APR         0
MAY         0
JUN         0
JUL         0
AUG         0
SEP         0
OCT         0
NOV         0
DEC         0
ANNUAL      0
Jan-Feb     0
Mar-May     0
Jun-Sep     0
Oct-Dec     0
dtype: int64
```

In [34]: `data=data.loc[(data.YEAR<2010)]`

In [35]: data

Out[35]:

SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	Jan-Feb	Mar-May	Jun-Sep	Oct-Dec
ANDAMAN & NICOBAR ISLANDS	110	110	110	108	108	109	108	108	108	107	108	108	107	104	110	107	107	107
ARUNACHAL PRADESH	97	96	96	95	97	97	96	96	97	97	95	95	95	91	96	95	95	94
ASSAM & MEGHALAYA	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
BIHAR	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
CHHATTISGARH	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
COASTAL ANDHRA PRADESH	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
COASTAL KARNATAKA	115	114	115	115	115	115	115	115	115	115	115	115	115	114	114	115	115	115
EAST MADHYA PRADESH	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
EAST RAJASTHAN	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
EAST UTTAR PRADESH	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
GANGETIC WEST BENGAL	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
GUJARAT REGION	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
HARYANA DELHI & CHANDIGARH	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
HIMACHAL PRADESH	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
JAMMU & KASHMIR	115	115	115	115	115	115	115	114	115	115	115	114	114	114	115	115	114	114
JHARKHAND	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
KERALA	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
KONKAN & GOA	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
LAKSHADWEEP	114	112	113	112	112	112	112	111	112	111	111	108	110	103	111	110	110	108
MADHYA MAHARASHTRA	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
MATATHWADA	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
NAGA MANI MIZO TRIPURA	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115

SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	Jan-Feb	Mar-May	Jun-Sep	Oct-Dec
NORTH INTERIOR KARNATAKA	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
ORISSA	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
PUNJAB	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
RAYALSEEMA	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
SAURASHTRA & KUTCH	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
SOUTH INTERIOR KARNATAKA	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
SUB HIMALAYAN WEST BENGAL & SIKKIM	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
TAMIL NADU	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
TELANGANA	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
UTTARAKHAND	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
VIDARBHA	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
WEST MADHYA PRADESH	115	115	114	115	115	115	115	115	115	115	115	115	115	114	114	115	115	115
WEST RAJASTHAN	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
WEST UTTAR PRADESH	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115

In [36]:
```python
data1=data.drop(['YEAR','JAN','FEB','MAR','JUN','JUL','AUG','SEP','OCT','NOV','DEC','ANNUAL'],axis=1)
```

In [37]: data1

Out[37]:

SUBDIVISION	APR	MAY	Jan-Feb	Mar-May	Jun-Sep	Oct-Dec
ANDAMAN & NICOBAR ISLANDS	108	109	110	107	107	107
ARUNACHAL PRADESH	97	97	96	95	95	94
ASSAM & MEGHALAYA	115	115	115	115	115	115
BIHAR	115	115	115	115	115	115
CHHATTISGARH	115	115	115	115	115	115
COASTAL ANDHRA PRADESH	115	115	115	115	115	115
COASTAL KARNATAKA	115	115	114	115	115	115
EAST MADHYA PRADESH	115	115	115	115	115	115
EAST RAJASTHAN	115	115	115	115	115	115
EAST UTTAR PRADESH	115	115	115	115	115	115
GANGETIC WEST BENGAL	115	115	115	115	115	115
GUJARAT REGION	115	115	115	115	115	115
HARYANA DELHI & CHANDIGARH	115	115	115	115	115	115
HIMACHAL PRADESH	115	115	115	115	115	115
JAMMU & KASHMIR	115	115	115	115	114	114
JHARKHAND	115	115	115	115	115	115
KERALA	115	115	115	115	115	115
KONKAN & GOA	115	115	115	115	115	115
LAKSHADWEEP	112	112	111	110	110	108
MADHYA MAHARASHTRA	115	115	115	115	115	115
MATATHWADA	115	115	115	115	115	115
NAGA MANI MIZO TRIPURA	115	115	115	115	115	115
NORTH INTERIOR KARNATAKA	115	115	115	115	115	115

SUBDIVISION	APR	MAY	Jan-Feb	Mar-May	Jun-Sep	Oct-Dec
ORISSA	115	115	115	115	115	115
PUNJAB	115	115	115	115	115	115
RAYALSEEMA	115	115	115	115	115	115
SAURASHTRA & KUTCH	115	115	115	115	115	115
SOUTH INTERIOR KARNATAKA	115	115	115	115	115	115
SUB HIMALAYAN WEST BENGAL & SIKKIM	115	115	115	115	115	115
TAMIL NADU	115	115	115	115	115	115
TELANGANA	115	115	115	115	115	115
UTTARAKHAND	115	115	115	115	115	115
VIDARBHA	115	115	115	115	115	115
WEST MADHYA PRADESH	115	115	114	115	115	115
WEST RAJASTHAN	115	115	115	115	115	115
WEST UTTAR PRADESH	115	115	115	115	115	115

```
In [38]: data1['ANNUAL_RAIN'] = data.apply([lambda row: row.JAN+row.FEB],axis=1)
```

In [39]: `data1`

Out[39]:

SUBDIVISION	APR	MAY	Jan-Feb	Mar-May	Jun-Sep	Oct-Dec	ANNUAL_RAIN
ANDAMAN & NICOBAR ISLANDS	108	109	110	107	107	107	220
ARUNACHAL PRADESH	97	97	96	95	95	94	192
ASSAM & MEGHALAYA	115	115	115	115	115	115	230
BIHAR	115	115	115	115	115	115	230
CHHATTISGARH	115	115	115	115	115	115	230
COASTAL ANDHRA PRADESH	115	115	115	115	115	115	230
COASTAL KARNATAKA	115	115	114	115	115	115	229
EAST MADHYA PRADESH	115	115	115	115	115	115	230
EAST RAJASTHAN	115	115	115	115	115	115	230
EAST UTTAR PRADESH	115	115	115	115	115	115	230
GANGETIC WEST BENGAL	115	115	115	115	115	115	230
GUJARAT REGION	115	115	115	115	115	115	230
HARYANA DELHI & CHANDIGARH	115	115	115	115	115	115	230
HIMACHAL PRADESH	115	115	115	115	115	115	230
JAMMU & KASHMIR	115	115	115	115	114	114	230
JHARKHAND	115	115	115	115	115	115	230
KERALA	115	115	115	115	115	115	230
KONKAN & GOA	115	115	115	115	115	115	230
LAKSHADWEEP	112	112	111	110	110	108	225
MADHYA MAHARASHTRA	115	115	115	115	115	115	230
MATATHWADA	115	115	115	115	115	115	230
NAGA MANI MIZO TRIPURA	115	115	115	115	115	115	230
NORTH INTERIOR KARNATAKA	115	115	115	115	115	115	230

SUBDIVISION	APR	MAY	Jan-Feb	Mar-May	Jun-Sep	Oct-Dec	ANNUAL_RAIN
ORISSA	115	115	115	115	115	115	230
PUNJAB	115	115	115	115	115	115	230
RAYALSEEMA	115	115	115	115	115	115	230
SAURASHTRA & KUTCH	115	115	115	115	115	115	230
SOUTH INTERIOR KARNATAKA	115	115	115	115	115	115	230
SUB HIMALAYAN WEST BENGAL & SIKKIM	115	115	115	115	115	115	230
TAMIL NADU	115	115	115	115	115	115	230
TELANGANA	115	115	115	115	115	115	230
UTTARAKHAND	115	115	115	115	115	115	230
VIDARBHA	115	115	115	115	115	115	230
WEST MADHYA PRADESH	115	115	114	115	115	115	229
WEST RAJASTHAN	115	115	115	115	115	115	230
WEST UTTAR PRADESH	115	115	115	115	115	115	230

```
In [40]: data1['JAN'] = data.apply([lambda row: row.JAN+row.FEB],axis=1)
         data1['FEB'] = data.apply([lambda row: row.JAN+row.FEB],axis=1)
         data1['MAR'] = data.apply([lambda row: row.JAN+row.FEB],axis=1)
         data1['APR'] = data.apply([lambda row: row.JAN+row.FEB],axis=1)
         data1['MAY'] = data.apply([lambda row: row.JAN+row.FEB],axis=1)
         data1['JUNE'] = data.apply([lambda row: row.JAN+row.FEB],axis=1)
         data1['JULY'] = data.apply([lambda row: row.JAN+row.FEB],axis=1)
         data1['AUG'] = data.apply([lambda row: row.JAN+row.FEB],axis=1)
         data1['SEP'] = data.apply([lambda row: row.JAN+row.FEB],axis=1)
         data1['OCT'] = data.apply([lambda row: row.JAN+row.FEB],axis=1)
         data1['NOV'] = data.apply([lambda row: row.JAN+row.FEB],axis=1)
         data1['DEC'] = data.apply([lambda row: row.JAN+row.FEB],axis=1)
```

In [41]: `data1`

Out[41]:

SUBDIVISION	APR	MAY	Jan-Feb	Mar-May	Jun-Sep	Oct-Dec	ANNUAL_RAIN	JAN	FEB	MAR	JUNE	JULY	AUG	SEP	OCT	NOV	DEC
ANDAMAN & NICOBAR ISLANDS	220	220	110	107	107	107	220	220	220	220	220	220	220	220	220	220	220
ARUNACHAL PRADESH	192	192	96	95	95	94	192	192	192	192	192	192	192	192	192	192	192
ASSAM & MEGHALAYA	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
BIHAR	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
CHHATTISGARH	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
COASTAL ANDHRA PRADESH	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
COASTAL KARNATAKA	229	229	114	115	115	115	229	229	229	229	229	229	229	229	229	229	229
EAST MADHYA PRADESH	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
EAST RAJASTHAN	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
EAST UTTAR PRADESH	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
GANGETIC WEST BENGAL	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
GUJARAT REGION	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
HARYANA DELHI & CHANDIGARH	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
HIMACHAL PRADESH	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
JAMMU & KASHMIR	230	230	115	115	114	114	230	230	230	230	230	230	230	230	230	230	230
JHARKHAND	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
KERALA	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
KONKAN & GOA	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
LAKSHADWEEP	225	225	111	110	110	108	225	225	225	225	225	225	225	225	225	225	225
MADHYA MAHARASHTRA	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230

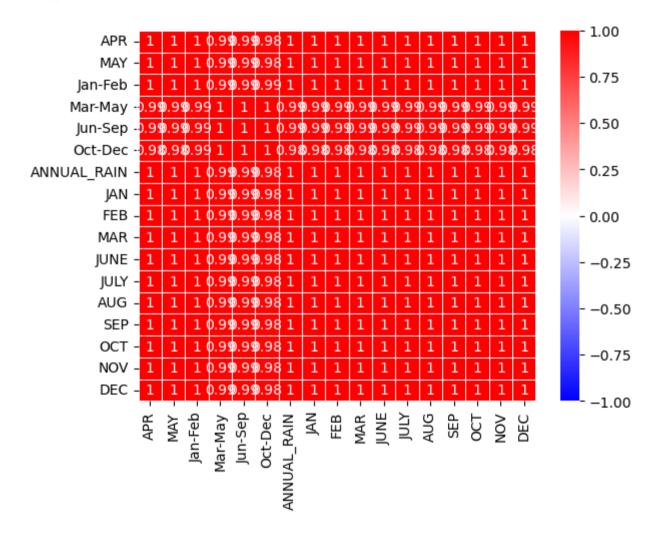| SUBDIVISION	APR	MAY	Jan-Feb	Mar-May	Jun-Sep	Oct-Dec	ANNUAL_RAIN	JAN	FEB	MAR	JUNE	JULY	AUG	SEP	OCT	NOV	DEC
MATATHWADA	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
NAGA MANI MIZO TRIPURA	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
NORTH INTERIOR KARNATAKA	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
ORISSA	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
PUNJAB	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
RAYALSEEMA	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
SAURASHTRA & KUTCH	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
SOUTH INTERIOR KARNATAKA	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
SUB HIMALAYAN WEST BENGAL & SIKKIM	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
TAMIL NADU	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
TELANGANA	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
UTTARAKHAND	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
VIDARBHA	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
WEST MADHYA PRADESH	229	229	114	115	115	115	229	229	229	229	229	229	229	229	229	229	229
WEST RAJASTHAN	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230
WEST UTTAR PRADESH	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230

In [42]:
```python
cor=data1.corr()
cor
```

Out[42]:

	APR	MAY	Jan-Feb	Mar-May	Jun-Sep	Oct-Dec	ANNUAL_RAIN	JAN	FEB	MAR	JUNE	JULY	
APR	1.000000	1.000000	0.996615	0.986271	0.985346	0.976851	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.
MAY	1.000000	1.000000	0.996615	0.986271	0.985346	0.976851	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.
Jan-Feb	0.996615	0.996615	1.000000	0.989273	0.988203	0.985370	0.996615	0.996615	0.996615	0.996615	0.996615	0.996615	0.
Mar-May	0.986271	0.986271	0.989273	1.000000	0.998940	0.996081	0.986271	0.986271	0.986271	0.986271	0.986271	0.986271	0.
Jun-Sep	0.985346	0.985346	0.988203	0.998940	1.000000	0.996960	0.985346	0.985346	0.985346	0.985346	0.985346	0.985346	0.
Oct-Dec	0.976851	0.976851	0.985370	0.996081	0.996960	1.000000	0.976851	0.976851	0.976851	0.976851	0.976851	0.976851	0.
ANNUAL_RAIN	1.000000	1.000000	0.996615	0.986271	0.985346	0.976851	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.
JAN	1.000000	1.000000	0.996615	0.986271	0.985346	0.976851	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.
FEB	1.000000	1.000000	0.996615	0.986271	0.985346	0.976851	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.
MAR	1.000000	1.000000	0.996615	0.986271	0.985346	0.976851	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.
JUNE	1.000000	1.000000	0.996615	0.986271	0.985346	0.976851	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.
JULY	1.000000	1.000000	0.996615	0.986271	0.985346	0.976851	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.
AUG	1.000000	1.000000	0.996615	0.986271	0.985346	0.976851	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.
SEP	1.000000	1.000000	0.996615	0.986271	0.985346	0.976851	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.
OCT	1.000000	1.000000	0.996615	0.986271	0.985346	0.976851	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.
NOV	1.000000	1.000000	0.996615	0.986271	0.985346	0.976851	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.
DEC	1.000000	1.000000	0.996615	0.986271	0.985346	0.976851	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.

```
In [43]: import seaborn as sns
         sns.heatmap(cor,vmax=1,vmin=-1,annot=True,linewidths=.5,cmap='bwr')
```

Out[43]: <Axes: >

In [46]:
```python
data1['SWM'] =data1.apply([lambda row: row.JUNE+row.JULY+row.AUG+row.SEP],axis=1)
data1
```

Out[46]:

SUBDIVISION	APR	MAY	Jan-Feb	Mar-May	Jun-Sep	Oct-Dec	ANNUAL_RAIN	JAN	FEB	MAR	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	SWM
ANDAMAN & NICOBAR ISLANDS	220	220	110	107	107	107	220	220	220	220	220	220	220	220	220	220	220	880
ARUNACHAL PRADESH	192	192	96	95	95	94	192	192	192	192	192	192	192	192	192	192	192	768
ASSAM & MEGHALAYA	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
BIHAR	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
CHHATTISGARH	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
COASTAL ANDHRA PRADESH	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
COASTAL KARNATAKA	229	229	114	115	115	115	229	229	229	229	229	229	229	229	229	229	229	916
EAST MADHYA PRADESH	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
EAST RAJASTHAN	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
EAST UTTAR PRADESH	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
GANGETIC WEST BENGAL	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
GUJARAT REGION	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
HARYANA DELHI & CHANDIGARH	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
HIMACHAL PRADESH	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
JAMMU & KASHMIR	230	230	115	115	114	114	230	230	230	230	230	230	230	230	230	230	230	920
JHARKHAND	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
KERALA	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920

SUBDIVISION	APR	MAY	Jan-Feb	Mar-May	Jun-Sep	Oct-Dec	ANNUAL_RAIN	JAN	FEB	MAR	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	SWM
KONKAN & GOA	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
LAKSHADWEEP	225	225	111	110	110	108	225	225	225	225	225	225	225	225	225	225	225	900
MADHYA MAHARASHTRA	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
MATATHWADA	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
NAGA MANI MIZO TRIPURA	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
NORTH INTERIOR KARNATAKA	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
ORISSA	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
PUNJAB	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
RAYALSEEMA	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
SAURASHTRA & KUTCH	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
SOUTH INTERIOR KARNATAKA	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
SUB HIMALAYAN WEST BENGAL & SIKKIM	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
TAMIL NADU	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
TELANGANA	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
UTTARAKHAND	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
VIDARBHA	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
WEST MADHYA PRADESH	229	229	114	115	115	115	229	229	229	229	229	229	229	229	229	229	229	916
WEST RAJASTHAN	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920
WEST UTTAR PRADESH	230	230	115	115	115	115	230	230	230	230	230	230	230	230	230	230	230	920

In [ ]: