

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
```

```
df = pd.read_csv(r"C:\Users\Ashish\OneDrive\Python Project file ALL\
Project 6 - India Census Dataset.csv")
```

```
df.head()
```

	District_code	State_name	District_name	Population	Male	Female \
0	1	JAMMU AND KASHMIR	Kupwara	870354	474190	396164
1	2	JAMMU AND KASHMIR	Badgam	753745	398041	355704
2	3	JAMMU AND KASHMIR	Leh(Ladakh)	133487	78971	54516
3	4	JAMMU AND KASHMIR	Kargil	140802	77785	63017
4	5	JAMMU AND KASHMIR	Punch	476835	251899	224936

	Literate	Workers	Male_Workers	Female_Workers	...	Christians
0	439654	229064	190899	38165	...	1700
1	335649	214866	162578	52288	...	1489
2	93770	75079	53265	21814	...	658
3	86236	51873	39839	12034	...	604
4	261724	161393	117677	43716	...	958

	Buddhists	Jains	Secondary_Education	Higher_Education \
0	66	39	74948	39709
1	47	6	66459	41367
2	88635	103	16265	8923
3	20126	28	16938	9826
4	83	10	46062	29517

	Graduate_Education	Age_Group_0_29	Age_Group_30_49	Age_Group_50
0	21751	600759	178435	89679
1	27950	503223	160933	88978
2	6197	70703	41515	21019
3	3077	87532	35561	17488
4	13962	304979	109818	61334

```
[5 rows x 25 columns]
```

How will you hide the Index of dataframe?

```
df.style.hide(axis="index")
```

```
<pandas.io.formats.style.Styler at 0x29cd42937d0>
```

How can we set heading of dataframe?

```
df.head(2)
```

	District_code	State_name	District_name	Population	Male	Female
0	1	JAMMU AND KASHMIR	Kupwara	870354	474190	396164
1	2	JAMMU AND KASHMIR	Badgam	753745	398041	355704

	Literate	Workers	Male_Workers	Female_Workers	...	Christians
0	439654	229064	190899	38165	...	1700
1	335649	214866	162578	52288	...	1489

	Buddhists	Jains	Secondary_Education	Higher_Education	...
0	66	39	74948	39709	...
1	47	6	66459	41367	...

	Graduate_Education	Age_Group_0_29	Age_Group_30_49	Age_Group_50
0	21751	600759	178435	89679
1	27950	503223	160933	88978

```
[2 rows x 25 columns]
```

```
df.style.set_caption("India Census 2011 Data")
```

```
<pandas.io.formats.style.Styler at 0x29cd287ed20>
```

Show the record related with the destrict - New Delhi, Jaipur, Lucknow?

```
df.head(2)
```

	District_code	State_name	District_name	Population	Male	Female \
0	1	JAMMU AND KASHMIR	Kupwara	870354	474190	396164
1	2	JAMMU AND KASHMIR	Badgam	753745	398041	355704

	Literate	Workers	Male_Workers	Female_Workers	...	Christians	Sikhs \
0	439654	229064	190899	38165	...	1700	5600
1	335649	214866	162578	52288	...	1489	5559

	Buddhists	Jains	Secondary_Education	Higher_Education \
0	66	39	74948	39709
1	47	6	66459	41367

	Graduate_Education	Age_Group_0_29	Age_Group_30_49	Age_Group_50
0	21751	600759	178435	89679
1	27950	503223	160933	88978

```
[2 rows x 25 columns]
```

```
df[df["District_name"].isin(["New Delhi","Lucknow","Jaipur"])]
```

	District_code	State_name	District_name	Population	Male	Female \
93	94	NCT OF DELHI	New Delhi	142004	77942	64062
109	110	RAJASTHAN	Jaipur	6626178	3468507	3157671
156	157	UTTAR PRADESH	Lucknow	4589838	2394476	2195362

	Literate	Workers	Male_Workers	Female_Workers	...	Christians	Sikhs \
93	114179	59541	46940	12601	...	4852	2933
109	4300965	2464893	1714947	749946	...	12708	18782
156	3127260	1542806	1226399	316407	...	20493	23883

	Buddhists	Jains	Secondary_Education	Higher_Education	\
93	312	679	15942	17742	
109	1020	81079	659389	455527	
156	3877	4975	428121	378742	

	Graduate_Education	Age_Group_0_29	Age_Group_30_49	Age_Group_50
93	23934	76076	43913	21773
109	703673	4091148	1646480	884057
156	639260	2678289	1161686	685258

[3 rows x 25 columns]

Calculate State Wise: Total Number of Population / Total number of Population with diffrent religion?

df.head(2)

	District_code	State_name	District_name	Population	Male	Female
0	1	JAMMU AND KASHMIR	Kupwara	870354	474190	396164
1	2	JAMMU AND KASHMIR	Badgam	753745	398041	355704

	Literate	Workers	Male_Workers	Female_Workers	...	Christians
0	439654	229064	190899	38165	...	1700
1	335649	214866	162578	52288	...	1489

	Buddhists	Jains	Secondary_Education	Higher_Education	\
0	66	39	74948	39709	
1	47	6	66459	41367	

	Graduate_Education	Age_Group_0_29	Age_Group_30_49	Age_Group_50
0	21751	600759	178435	89679
1	27950	503223	160933	88978

[2 rows x 25 columns]

```
df.columns
```

```
Index(['District_code', 'State_name', 'District_name', 'Population',  
      'Male',  
      'Female', 'Literate', 'Workers', 'Male_Workers',  
      'Female_Workers',  
      'Cultivator_Workers', 'Agricultural_Workers',  
      'Household_Workers',  
      'Hindus', 'Muslims', 'Christians', 'Sikhs', 'Buddhists',  
      'Jains',  
      'Secondary_Education', 'Higher_Education',  
      'Graduate_Education',  
      'Age_Group_0_29', 'Age_Group_30_49', 'Age_Group_50'],  
      dtype='object')
```

```
df.groupby("State_name").Population.sum().sort_values(ascending =  
False).head(5)
```

```
State_name  
UTTAR PRADESH      199812341  
MAHARASHTRA        112374333  
BIHAR              104099452  
WEST BENGAL         91276115  
ANDHRA PRADESH      84580777  
Name: Population, dtype: int64
```

```
df.groupby("State_name")[["Hindus", "Muslims", "Christians", "Sikhs",  
"Buddhists", "Jains"]].sum().sort_values(by="Hindus",ascending=False)
```

	Hindus	Muslims	Christians	Sikhs
State_name				
UTTAR PRADESH	159312654	38483967	356448	643500
MAHARASHTRA	89703057	12971152	1080073	223247
BIHAR	86078686	17557809	129247	23779
ANDHRA PRADESH	74824149	8082412	1129784	40244
MADHYA PRADESH	66007121	4774695	213282	151412
WEST BENGAL	64385546	24654825	658618	63523
TAMIL NADU	63188168	4229479	4418331	14601
RAJASTHAN	60657103	6215377	96430	872930
GUJARAT	53533988	5846761	316178	58246

KARNATAKA	51317472	7893065	1142647	28773
ORISSA	39300341	911670	1161708	21991
CHHATTISGARH	23819789	514998	490542	70036
JHARKHAND	22376051	4793994	1418608	71422
HARYANA	22171128	1781342	50353	1243752
ASSAM	19180759	10679345	1165867	20672
KERALA	18282492	8873472	6141269	3814
NCT OF DELHI	13712100	2158684	146093	570581
PUNJAB	10678138	535489	348230	16004754
UTTARAKHAND	8368636	1406825	37781	236340
HIMACHAL PRADESH	6532765	149881	12646	79896
JAMMU AND KASHMIR	3566674	8567485	35631	234848
TRIPURA	3063903	316042	159882	1070
MANIPUR	1181876	239836	1179043	1527
PONDICHERRY	1089409	75556	78550	297
GOA	963877	121564	366130	1473
CHANDIGARH	852574	51447	8720	138329
ARUNACHAL PRADESH	401876	27045	418732	3287
SIKKIM	352662	9867	60522	1868
MEGHALAYA	342078	130399	2213027	3045
DADRA AND NAGAR HAVELI	322857	12922	5113	217
ANDAMAN AND NICOBAR ISLANDS	264296	32413	80984	1286
DAMAN AND DIU	220150	19277	2820	172
NAGALAND	173054	48963	1739651	1890
MIZORAM	30136	14832	956331	286
LAKSHADWEEP	1788	62268	317	8

	Buddhists	Jains
State_name		
UTTAR PRADESH	206285	213267
MAHARASHTRA	6531200	1400349
BIHAR	25453	18914
ANDHRA PRADESH	36692	53849
MADHYA PRADESH	216052	567028
WEST BENGAL	282898	60141
TAMIL NADU	11186	89265
RAJASTHAN	12185	622023
GUJARAT	30483	579654
KARNATAKA	95710	440280
ORISSA	13852	9420
CHHATTISGARH	70467	61510
JHARKHAND	8956	14974
HARYANA	7514	52613
ASSAM	54993	25949
KERALA	4752	4489
NCT OF DELHI	18449	166231
PUNJAB	33237	45040
UTTARAKHAND	14926	9183
HIMACHAL PRADESH	78659	1805
JAMMU AND KASHMIR	112584	2490
TRIPURA	125385	860
MANIPUR	7084	1692
PONDICHERRY	451	1400
GOA	1095	1109
CHANDIGARH	1160	1960
ARUNACHAL PRADESH	162815	771
SIKKIM	167216	314
MEGHALAYA	9864	627
DADRA AND NAGAR HAVELI	634	1186
ANDAMAN AND NICOBAR ISLANDS	338	31
DAMAN AND DIU	217	287
NAGALAND	6759	2655
MIZORAM	93411	376
LAKSHADWEEP	10	11

How many male Worker is their in Maharashtra State?

```
df.head(2)
```

	District_code	State_name	District_name	Population	Male
Female \					
0	1	JAMMU AND KASHMIR	Kupwara	870354	474190

```

396164
1          2  JAMMU AND KASHMIR          Badgam          753745  398041
355704

```

```

    Literate  Workers  Male_Workers  Female_Workers  ...  Christians
Sikhs \
0    439654    229064          190899          38165  ...          1700
5600
1    335649    214866          162578          52288  ...          1489
5559

```

```

    Buddhists  Jains  Secondary_Education  Higher_Education \
0           66     39                74948                39709
1           47      6                66459                41367

```

```

    Graduate_Education  Age_Group_0_29  Age_Group_30_49  Age_Group_50
0                21751                600759                178435                89679
1                27950                503223                160933                88978

```

```
[2 rows x 25 columns]
```

```
df[df.State_name == "MAHARASHTRA"].head(2)
```

```

    District_code  State_name  District_name  Population    Male
Female \
496              497  MAHARASHTRA    Nandurbar    1648295    833170
815125
497              498  MAHARASHTRA        Dhule    2050862   1054031
996831

```

```

    Literate  Workers  Male_Workers  Female_Workers  ...  Christians
Sikhs \
496    906509    792065          442898          349167  ...          8467
685
497   1293916    936370          570448          365922  ...          3653
1422

```

```

    Buddhists  Jains  Secondary_Education  Higher_Education \
496        4969    6191                160961                113019
497        13405   12818                290656                182739

```

```

    Graduate_Education  Age_Group_0_29  Age_Group_30_49  Age_Group_50
496                58461                1011352                390419                241534
497                114931                1167569                513908                350747

```

```
[2 rows x 25 columns]
```

```
df[df.State_name == "MAHARASHTRA"]["Male_Workers"].sum()
```


32616875

*** How to set any columns as Index of dataframe? ***

```
df.head(2)
```

	District_code	State_name	District_name	Population	Male	Female
0	1	JAMMU AND KASHMIR	Kupwara	870354	474190	396164
1	2	JAMMU AND KASHMIR	Badgam	753745	398041	355704

	Literate	Workers	Male_Workers	Female_Workers	...	Christians
0	439654	229064	190899	38165	...	1700
1	335649	214866	162578	52288	...	1489

	Buddhists	Jains	Secondary_Education	Higher_Education	...
0	66	39	74948	39709	...
1	47	6	66459	41367	...

	Graduate_Education	Age_Group_0_29	Age_Group_30_49	Age_Group_50
0	21751	600759	178435	89679
1	27950	503223	160933	88978

[2 rows x 25 columns]

```
df.set_index("District_code")
```

	State_name	District_name
1	JAMMU AND KASHMIR	Kupwara
2	JAMMU AND KASHMIR	Badgam
3	JAMMU AND KASHMIR	Leh(Ladakh)
4	JAMMU AND KASHMIR	Kargil
5	JAMMU AND KASHMIR	Punch
...

636	PONDICHERRY				Mahe
637	PONDICHERRY				Karaikal
638	ANDAMAN AND NICOBAR ISLANDS				Nicobars
639	ANDAMAN AND NICOBAR ISLANDS				North AND Middle Andaman
640	ANDAMAN AND NICOBAR ISLANDS				South Andaman
	Population	Male	Female	Literate	Workers
Male_Workers \ District_code					
1 190899	870354	474190	396164	439654	229064
2 162578	753745	398041	355704	335649	214866
3 53265	133487	78971	54516	93770	75079
4 39839	140802	77785	63017	86236	51873
5 117677	476835	251899	224936	261724	161393
...
...					
636 9093	41816	19143	22673	36470	11802
637 53139	200222	97809	102413	154916	68301
638 12714	36842	20727	16115	25332	17125
639 30612	105597	54861	50736	78683	38579
640 77563	238142	127283	110859	190266	96831
	Female_Workers	Cultivator_Workers	...	Christians	
Sikhs \ District_code				...	
1 5600	38165		34680	...	1700
2 5559	52288		55299	...	1489
3 1092	21814		20869	...	658
4	12034		8266	...	604

1171				
5	43716	54264	...	958
11188				
...
...				
636	2709	43	...	958
3				
637	15162	2372	...	18391
46				
638	4411	322	...	26077
343				
639	7967	10727	...	21870
77				
640	19268	5518	...	33037
866				

	Buddhists	Jains	Secondary_Education	Higher_Education
\ District_code				
1	66	39	74948	39709
2	47	6	66459	41367
3	88635	103	16265	8923
4	20126	28	16938	9826
5	83	10	46062	29517
...
636	21	14	8773	5711
637	63	54	29456	15930
638	119	0	6325	3668
639	84	4	12707	10042
640	135	27	42150	29910

	Graduate_Education	Age_Group_0_29	Age_Group_30_49	\
District_code				
1	21751	600759	178435	
2	27950	503223	160933	
3	6197	70703	41515	
4	3077	87532	35561	
5	13962	304979	109818	
...	

636	4475	19760	12543
637	18998	102333	60089
638	1300	18786	12088
639	5133	57350	30741
640	22388	128402	76332

	Age_Group_50
District_code	
1	89679
2	88978
3	21019
4	17488
5	61334
...	...
636	9428
637	37434
638	5922
639	17464
640	33128

[640 rows x 24 columns]

*** Add a suffix to columns name? ***

df.head(2)

	District_code	State_name	District_name	Population	Male	Female
0	1	JAMMU AND KASHMIR	Kupwara	870354	474190	396164
1	2	JAMMU AND KASHMIR	Badgam	753745	398041	355704

	Literate	Workers	Male_Workers	Female_Workers	...	Christians
0	439654	229064	190899	38165	...	1700
1	335649	214866	162578	52288	...	1489

	Buddhists	Jains	Secondary_Education	Higher_Education	...
0	66	39	74948	39709	...
1	47	6	66459	41367	...

	Graduate_Education	Age_Group_0_29	Age_Group_30_49	Age_Group_50
0	21751	600759	178435	89679
1	27950	503223	160933	88978

[2 rows x 25 columns]

df.add_suffix("_rightone")

District_code_rightone		State_name_rightone \	
0	1	JAMMU AND KASHMIR	
1	2	JAMMU AND KASHMIR	
2	3	JAMMU AND KASHMIR	
3	4	JAMMU AND KASHMIR	
4	5	JAMMU AND KASHMIR	
...	
635	636	PONDICHERRY	
636	637	PONDICHERRY	
637	638	ANDAMAN AND NICOBAR ISLANDS	
638	639	ANDAMAN AND NICOBAR ISLANDS	
639	640	ANDAMAN AND NICOBAR ISLANDS	
District_name_rightone		Population_rightone	Male_rightone \
0	Kupwara	870354	474190
1	Badgam	753745	398041
2	Leh(Ladakh)	133487	78971
3	Kargil	140802	77785
4	Punch	476835	251899
...
635	Mahe	41816	19143
636	Karaikal	200222	97809
637	Nicobars	36842	20727
638	North AND Middle Andaman	105597	54861
639	South Andaman	238142	127283
Female_rightone		Literate_rightone	Workers_rightone \
0	396164	439654	229064
1	355704	335649	214866
2	54516	93770	75079
3	63017	86236	51873
4	224936	261724	161393
...
635	22673	36470	11802
636	102413	154916	68301
637	16115	25332	17125
638	50736	78683	38579
639	110859	190266	96831
Male_Workers_rightone		Female_Workers_rightone ...	
Christians_rightone \			
0	190899	38165	...
1700			
1	162578	52288	...
1489			

2	53265	21814	...
658			
3	39839	12034	...
604			
4	117677	43716	...
958			
..
...			
635	9093	2709	...
958			
636	53139	15162	...
18391			
637	12714	4411	...
26077			
638	30612	7967	...
21870			
639	77563	19268	...
33037			

	Sikhs_rightone	Buddhists_rightone	Jains_rightone	\
0	5600	66	39	
1	5559	47	6	
2	1092	88635	103	
3	1171	20126	28	
4	11188	83	10	
..	
635	3	21	14	
636	46	63	54	
637	343	119	0	
638	77	84	4	
639	866	135	27	

	Secondary_Education_rightone	Higher_Education_rightone	\
0	74948	39709	
1	66459	41367	
2	16265	8923	
3	16938	9826	
4	46062	29517	
..	
635	8773	5711	
636	29456	15930	
637	6325	3668	
638	12707	10042	
639	42150	29910	

	Graduate_Education_rightone	Age_Group_0_29_rightone	\
0	21751	600759	
1	27950	503223	
2	6197	70703	
3	3077	87532	

4	13962	304979
...
635	4475	19760
636	18998	102333
637	1300	18786
638	5133	57350
639	22388	128402

	Age_Group_30_49_rightone	Age_Group_50_rightone
0	178435	89679
1	160933	88978
2	41515	21019
3	35561	17488
4	109818	61334
...
635	12543	9428
636	60089	37434
637	12088	5922
638	30741	17464
639	76332	33128

[640 rows x 25 columns]

*** Add a prefix to columns name? ***

df.head(2)

	District_code	State_name	District_name	Population	Male	Female
0	1	JAMMU AND KASHMIR	Kupwara	870354	474190	396164
1	2	JAMMU AND KASHMIR	Badgam	753745	398041	355704

	Literate	Workers	Male_Workers	Female_Workers	...	Christians	Sikhs
0	439654	229064	190899	38165	...	1700	5600
1	335649	214866	162578	52288	...	1489	5559

	Buddhists	Jains	Secondary_Education	Higher_Education	...
0	66	39	74948	39709	...
1	47	6	66459	41367	...

	Graduate_Education	Age_Group_0_29	Age_Group_30_49	Age_Group_50
0	21751	600759	178435	89679
1	27950	503223	160933	88978

```
[2 rows x 25 columns]
```

```
df = df.add_prefix("leftone_")
```

```
df
```

	leftone_District_code	leftone_State_name	\
0	1	JAMMU AND KASHMIR	
1	2	JAMMU AND KASHMIR	
2	3	JAMMU AND KASHMIR	
3	4	JAMMU AND KASHMIR	
4	5	JAMMU AND KASHMIR	
...	
635	636	PONDICHERRY	
636	637	PONDICHERRY	
637	638	ANDAMAN AND NICOBAR ISLANDS	
638	639	ANDAMAN AND NICOBAR ISLANDS	
639	640	ANDAMAN AND NICOBAR ISLANDS	

	leftone_District_name	leftone_Population	leftone_Male	\
0	Kupwara	870354	474190	
1	Badgam	753745	398041	
2	Leh(Ladakh)	133487	78971	
3	Kargil	140802	77785	
4	Punch	476835	251899	
...	
635	Mahe	41816	19143	
636	Karaikal	200222	97809	
637	Nicobars	36842	20727	
638	North AND Middle Andaman	105597	54861	
639	South Andaman	238142	127283	

	leftone_Female	leftone_Literate	leftone_Workers
leftone_Male_Workers	\		
0	396164	439654	229064
190899			
1	355704	335649	214866
162578			
2	54516	93770	75079
53265			
3	63017	86236	51873
39839			
4	224936	261724	161393
117677			
...
...			
635	22673	36470	11802
9093			
636	102413	154916	68301

53139			
637	16115	25332	17125
12714			
638	50736	78683	38579
30612			
639	110859	190266	96831
77563			

	leftone_Female_Workers	...	leftone_Christians	leftone_Sikhs	\
0	38165	...	1700	5600	
1	52288	...	1489	5559	
2	21814	...	658	1092	
3	12034	...	604	1171	
4	43716	...	958	11188	
..	
635	2709	...	958	3	
636	15162	...	18391	46	
637	4411	...	26077	343	
638	7967	...	21870	77	
639	19268	...	33037	866	

	leftone_Buddhists	leftone_Jains	leftone_Secondary_Education	\
0	66	39	74948	
1	47	6	66459	
2	88635	103	16265	
3	20126	28	16938	
4	83	10	46062	
..	
635	21	14	8773	
636	63	54	29456	
637	119	0	6325	
638	84	4	12707	
639	135	27	42150	

	leftone_Higher_Education	leftone_Graduate_Education	\
0	39709	21751	
1	41367	27950	
2	8923	6197	
3	9826	3077	
4	29517	13962	
..	
635	5711	4475	
636	15930	18998	
637	3668	1300	
638	10042	5133	
639	29910	22388	

	leftone_Age_Group_0_29	leftone_Age_Group_30_49
leftone_Age_Group_50		
0	600759	178435

89679		
1	503223	160933
88978		
2	70703	41515
21019		
3	87532	35561
17488		
4	304979	109818
61334		
..
...		
635	19760	12543
9428		
636	102333	60089
37434		
637	18786	12088
5922		
638	57350	30741
17464		
639	128402	76332
33128		

[640 rows x 25 columns]