ASSIGNMENT

GROUPING AND SORTING CSV FILE

SUBMITTED BY:

NAME: PRIYA.S

REGNO: 20MCA0033

CODE:

```python
import pandas as pd
df = pd.read_csv('C:/Users/HP/Desktop/Assignment/dataset.csv')
print(df)
print("\n")
df['first_three_digits'] = df.phno.astype(str).str[:3]
print(df)
print("\n")
grouped_obj = df.groupby(["first_three_digits"])
for key, item in grouped_obj:
    print("Key is: " + str(key))
    print(str(item), "\n\n")
    sorted_df = item.sort_values(by=["fname"], ascending=True)
    print("Sorted by fname: " + str(key))
    print(sorted_df)
    print("\n")
```

OUTPUT:

```
In [1]: import pandas as pd
        df = pd.read_csv('C:/Users/HP/Desktop/Assignment/dataset.csv')
        df
```

Out[1]:

	fname	phno	adharid	voterid
0	priya	9003451258	1.240000e+11	acb8521452
1	anjana	9003562014	5.620000e+11	oik2145963
2	ram	8006214532	6.540000e+11	mji3021548
3	roshini	7356214896	5.490000e+11	mvb7410236
4	hamru	9003625489	9.510000e+11	sdf8413652
5	sundar	7351698426	2.320000e+11	ujn5214852
6	viji	8003694858	6.250000e+11	khj5565656
7	sylvia	6319587456	2.010000e+11	sef1254587
8	nisha	8006485792	2.323223e+06	dff8514251
9	kumar	9003205152	3.225455e+06	efs3506284
10	siva	7356258778	6.989921e+08	grs3074562
11	rajesh	9003569286	4.821580e+10	grt9521485
12	anitha	7356208874	4.548455e+10	dsr8470235
13	saro	6315522362	1.524457e+09	fef1251656
14	guru	8003232326	8.480000e+11	efs3506284
15	mani	7356206325	2.121212e+06	fre6659989
16	renu	7356487578	2.323267e+08	mjb1425306
17	manisha	6312045689	6.599842e+09	pkm8520362
18	nikhil	9156948632	5.656146e+09	pro9512485
19	hari	9136258746	6.597451e+07	ere3201564
20	danny	9153200251	6.589841e+10	wer9514785
21	pd	9136258952	6.566990e+08	rew3201564
22	malar	9153658947	9.526863e+07	erw9713256
23	moni	9150367654	6.566689e+10	gre6325148

```
In [2]: df['first_three_digits'] = df.phno.astype(str).str[:3]
        print(df)
```

```
       fname        phno       adharid      voterid  first_three_digits
0      priya  9003451258  1.240000e+11  acb8521452                 900
1     anjana  9003562014  5.620000e+11  oik2145963                 900
2        ram  8006214532  6.540000e+11  mji3021548                 800
3    roshini  7356214896  5.490000e+11  mvb7410236                 735
4      hamru  9003625489  9.510000e+11  sdf8413652                 900
5     sundar  7351698426  2.320000e+11  ujn5214852                 735
6       viji  8003694858  6.250000e+11  khj5565656                 800
7     sylvia  6319587456  2.010000e+11  sef1254587                 631
8      nisha  8006485792  2.323223e+06  dff8514251                 800
9      kumar  9003205152  3.225455e+06  efs3506284                 900
10      siva  7356258778  6.989921e+08  grs3074562                 735
11    rajesh  9003569286  4.821580e+10  grt9521485                 900
12    anitha  7356208874  4.548455e+10  dsr8470235                 735
13      saro  6315522362  1.524457e+09  fef1251656                 631
14      guru  8003232326  8.480000e+11  efs3506284                 800
15      mani  7356206325  2.121212e+06  fre6659989                 735
16      renu  7356487578  2.323267e+08  mjb1425306                 735
17   manisha  6312045689  6.599842e+09  pkm8520362                 631
18    nikhil  9156948632  5.656146e+09  pro9512485                 915
19      hari  9136258746  6.597451e+07  ere3201564                 913
20     danny  9153200251  6.589841e+10  wer9514785                 915
21        pd  9136258952  6.566990e+08  rew3201564                 913
22     malar  9153658947  9.526863e+07  erw9713256                 915
23      moni  9150367654  6.566689e+10  gre6325148                 915
```

```python
grouped_obj = df.groupby(["first_three_digits"])
for key, item in grouped_obj:
    print("Key is: " + str(key))
    print(str(item), "\n\n")
    sorted_df = item.sort_values(by=["fname"], ascending=True)
    print("Sorted by fname: " + str(key))
    print(sorted_df)
    print("\n")
```

```
Key is: 631
      fname        phno       adharid      voterid first_three_digits
7    sylvia  6319587456  2.010000e+11  sef1254587                631
13     saro  6315522362  1.524457e+09  fef1251656                631
17  manisha  6312045689  6.599842e+09  pkm8520362                631


Sorted by fname: 631
      fname        phno       adharid      voterid first_three_digits
17  manisha  6312045689  6.599842e+09  pkm8520362                631
13     saro  6315522362  1.524457e+09  fef1251656                631
7    sylvia  6319587456  2.010000e+11  sef1254587                631


Key is: 735
      fname        phno       adharid      voterid first_three_digits
3   roshini  7356214896  5.490000e+11  mvb7410236                735
5    sundar  7351698426  2.320000e+11  ujn5214852                735
10     siva  7356258778  6.989921e+08  grs3074562                735
12   anitha  7356208874  4.548455e+10  dsr8470235                735
15     mani  7356206325  2.121212e+06  fre6659989                735
16     renu  7356487578  2.323267e+08  mjb1425306                735


Sorted by fname: 735
      fname        phno       adharid      voterid first_three_digits
12   anitha  7356208874  4.548455e+10  dsr8470235                735
15     mani  7356206325  2.121212e+06  fre6659989                735
16     renu  7356487578  2.323267e+08  mjb1425306                735
3   roshini  7356214896  5.490000e+11  mvb7410236                735
10     siva  7356258778  6.989921e+08  grs3074562                735
5    sundar  7351698426  2.320000e+11  ujn5214852                735
```

```
Key is: 800
      fname       phno       adharid        voterid first_three_digits
2       ram  8006214532  6.540000e+11  mji3021548                800
6      viji  8003694858  6.250000e+11  khj5565656                800
8     nisha  8006485792  2.323223e+06  dff8514251                800
14     guru  8003232326  8.480000e+11  efs3506284                800


Sorted by fname: 800
      fname       phno       adharid        voterid first_three_digits
14     guru  8003232326  8.480000e+11  efs3506284                800
8     nisha  8006485792  2.323223e+06  dff8514251                800
2       ram  8006214532  6.540000e+11  mji3021548                800
6      viji  8003694858  6.250000e+11  khj5565656                800


Key is: 900
      fname       phno       adharid        voterid first_three_digits
0     priya  9003451258  1.240000e+11  acb8521452                900
1    anjana  9003562014  5.620000e+11  oik2145963                900
4     hamru  9003625489  9.510000e+11  sdf8413652                900
9     kumar  9003205152  3.225455e+06  efs3506284                900
11   rajesh  9003569286  4.821580e+10  grt9521485                900


Sorted by fname: 900
      fname       phno       adharid        voterid first_three_digits
1    anjana  9003562014  5.620000e+11  oik2145963                900
4     hamru  9003625489  9.510000e+11  sdf8413652                900
9     kumar  9003205152  3.225455e+06  efs3506284                900
0     priya  9003451258  1.240000e+11  acb8521452                900
11   rajesh  9003569286  4.821580e+10  grt9521485                900


Key is: 913
     fname       phno       adharid        voterid first_three_digits
19    hari  9136258746  65974511.0  ere3201564                913
21      pd  9136258952  656698956.0  rew3201564                913


Sorted by fname: 913
     fname       phno       adharid        voterid first_three_digits
19    hari  9136258746  65974511.0  ere3201564                913
21      pd  9136258952  656698956.0  rew3201564                913


Key is: 915
      fname       phno       adharid        voterid first_three_digits
18   nikhil  9156948632  5.656146e+09  pro9512485                915
20    danny  9153200251  6.589841e+10  wer9514785                915
22    malar  9153658947  9.526863e+07  erw9713256                915
23     moni  9150367654  6.566689e+10  gre6325148                915


Sorted by fname: 915
      fname       phno       adharid        voterid first_three_digits
20    danny  9153200251  6.589841e+10  wer9514785                915
22    malar  9153658947  9.526863e+07  erw9713256                915
23     moni  9150367654  6.566689e+10  gre6325148                915
18   nikhil  9156948632  5.656146e+09  pro9512485                915
```