Skilling-3
Hospital Rating Analysis

To Rate the Hospitals based on its performance by EDA
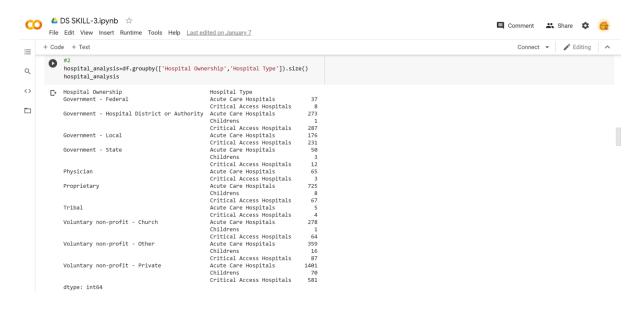
1. Loading data & cleaning
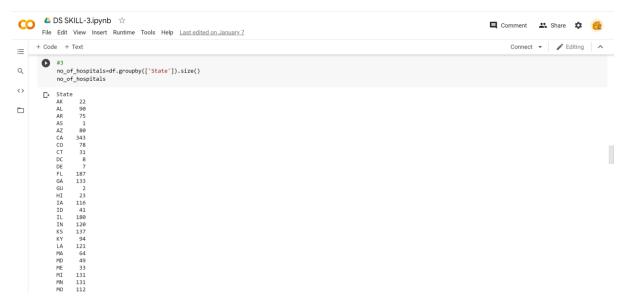
2. Hospital Analysis-'Hospital Type' by 'Ownership'

```
#2
hospital_analysis=df.groupby(['Hospital Ownership','Hospital Type']).size()
hospital_analysis
```

```
Hospital Ownership                              Hospital Type
Government - Federal                            Acute Care Hospitals        37
                                                Critical Access Hospitals    8
Government - Hospital District or Authority     Acute Care Hospitals       273
                                                Childrens                    1
                                                Critical Access Hospitals  287
Government - Local                              Acute Care Hospitals       176
                                                Critical Access Hospitals  231
Government - State                              Acute Care Hospitals        50
                                                Childrens                    3
                                                Critical Access Hospitals   12
Physician                                       Acute Care Hospitals        65
                                                Critical Access Hospitals    3
Proprietary                                     Acute Care Hospitals       725
                                                Childrens                    8
                                                Critical Access Hospitals   67
Tribal                                          Acute Care Hospitals         5
                                                Critical Access Hospitals    4
Voluntary non-profit - Church                   Acute Care Hospitals       278
                                                Childrens                    1
                                                Critical Access Hospitals   64
Voluntary non-profit - Other                    Acute Care Hospitals       359
                                                Childrens                   16
                                                Critical Access Hospitals   87
Voluntary non-profit - Private                  Acute Care Hospitals      1401
                                                Childrens                   70
                                                Critical Access Hospitals  581
dtype: int64
```

3. Total number of Hospitals in each 'State'

```
#3
no_of_hospitals=df.groupby(['State']).size()
no_of_hospitals
```

```
State
AK     22
AL     90
AR     75
AS      1
AZ     80
CA    343
CO     78
CT     31
DC      8
DE      7
FL    187
GA    133
GU      2
HI     23
IA    116
ID     41
IL    180
IN    120
KS    137
KY     94
LA    121
MA     64
MD     49
ME     33
MI    131
MN    131
MO    112
```

4. County wise hospital numbers in 'TX'


```
#4
country_wise=df[df['State']=='TX']
country_wise
```

3955	450007	REGIONAL MEDICAL CENTER	COUNTRY DRIVE	KERRVILLE	TX	78028	KERR	8308964200	Acute Care Hospitals	Voluntary non-profit - Private	Yes	Y	3	NaN	Below t natio avera
3956	450010	UNITED REGIONAL HEALTH CARE SYSTEM	1600 11TH STREET	WICHITA FALLS	TX	76301	WICHITA	9407643055	Acute Care Hospitals	Voluntary non-profit - Private	Yes	Y	4	NaN	Below t natio avera
3957	450011	ST JOSEPH REGIONAL HEALTH CENTER	2801 FRANCISCAN DR	BRYAN	TX	77802	BRAZOS	9797763912	Acute Care Hospitals	Voluntary non-profit - Private	Yes	Y	3	NaN	Below t natio avera
3958	450015	PARKLAND HEALTH AND HOSPITAL SYSTEM	5200 HARRY HINES BLVD	DALLAS	TX	75235	DALLAS	2145908000	Acute Care Hospitals	Government - Hospital District or Authority	Yes	Y	2	NaN	Same the natio avera
...	...	...		...	...	...	...	...	...	...	...	...	...	...	
4803	670114	WEIMAR MEDICAL CENTER	400 YOUENS DR	WEIMAR	TX	78962	COLORADO	9797258274	Acute Care Hospitals	Proprietary	Yes	Y	Not Available	There are too few measures or measure groups r...	N Availa

5. Distribution of 'Hospital Type' and 'Ownership in Texas'


```
#5
ownership_texas=df[['State','Hospital Ownership']]
ownership_texas=ownership_texas[ownership_texas['State']=='TX']
ownership_texas
```

	State	Hospital Ownership
3954	TX	Proprietary
3955	TX	Voluntary non-profit - Private
3956	TX	Voluntary non-profit - Private
3957	TX	Voluntary non-profit - Private
3958	TX	Government - Hospital District or Authority
...	...	...
4803	TX	Proprietary
4804	TX	Proprietary
4805	TX	Government - Hospital District or Authority
4806	TX	Proprietary
4807	TX	Proprietary

411 rows × 2 columns

6. Find 'Timeliness of care national comparison footnote' and its 'hospital'


```
#6
timeliness=pd.crosstab(df['Hospital Name'],df['Timeliness of care national comparison footnote']=="Above the national average")
timeliness
```

Timeliness of care national comparison footnote	False
Hospital Name	
ABBEVILLE AREA MEDICAL CENTER	1
ABBEVILLE GENERAL HOSPITAL	1
ABBOTT NORTHWESTERN HOSPITAL	1
ABILENE REGIONAL MEDICAL CENTER	1
ABINGTON MEMORIAL HOSPITAL	1
...	...
YORK HOSPITAL	2
YUKON KUSKOKWIM DELTA REG HOSPITAL	1
YUMA DISTRICT HOSPITAL	1
YUMA REGIONAL MEDICAL CENTER	1
ZUNI COMPREHENSIVE COMMUNITY HEALTH CENTER	1

4623 rows × 1 columns

7. 'Hospital rating'


```
#7
hospital_rating=df[['Hospital Type','Hospital overall rating']]
hospital_rating
```

	Hospital Type	Hospital overall rating
0	Acute Care Hospitals	3
1	Acute Care Hospitals	3
2	Acute Care Hospitals	2
3	Acute Care Hospitals	2
4	Acute Care Hospitals	3
...	...	...
4807	Acute Care Hospitals	Not Available
4808	Acute Care Hospitals	Not Available
4809	Acute Care Hospitals	3
4810	Acute Care Hospitals	Not Available
4811	Acute Care Hospitals	Not Available

4812 rows × 2 columns

8. Find 'Acute Care Hospitals' with rating (4) along with 'state'


```
#8
df.loc[(df['Hospital overall rating']=="4") & (df['Hospital Type']=="Acute Care Hospitals"),['State']]
```

	State
10	AL
11	AL
14	AL
15	AL
17	AL
...	...
4777	TX
4779	TX
4780	TX
4782	TX
4784	TX

724 rows × 1 columns

9. Which type of hospitals has highest 'Non-availability' of 'Safety of Care data'?


```
#9
res=df.loc[(df["Safety of care national comparison"]=="Not Available"),["Hospital Type"]]
res.mode()
```

	Hospital Type
0	Critical Access Hospitals

10. What are the different types of 'Patient experience national comparison' and list their 'Provider ID'?


```
df.groupby(["Patient experience national comparison","Provider ID"]).size()
```

```
Patient experience national comparison  Provider ID
Above the national average              10021        1
                                        10022        1
                                        10029        1
                                        10033        1
                                        10044        1
                                                    ..
Same as the national average            670023       1
                                        670044       1
                                        670047       1
                                        670085       1
                                        670106       1
Length: 4812, dtype: int64
```