

importing the libraries and loading the dataset file

```
In [125]: import pandas as pd
In [126]: import numpy as np
In [127]: import matplotlib.pyplot as plt
In [128]: import seaborn as sns
In [129]: df = pd.read_csv('C:\Users\1687131\Downloads\CS Insights Analyst Assessment - Customer Dataset.csv')
df
```

```
Out[128]:
```

	ID	Ticket
0	6293381646078667a6590ea.0	hotel was dirty arcon broke in bedroom with...
1	63349a78a46078a0a05da2.4	The reports we read of smells in bathrooms ar...
2	63363079a46078a077a215ab.3	We had minor issues with lights not working A...
3	632575846034603a608b6.7	If however you go in September as we did whic...
4	608ba1846026a78a102ba0.0	The customer service we experienced wasn't ver...
...
145	616d5338a46034603a608b41b.8	The hotel is advertised as having a wi games ...
146	63249360a460785028959072.1	Pool table and table tennis we're in poor repo...
147	631649a46078a0786977a215ab.16	The games area in the basement was a lot with a...
148	633b3358a460a460a4604a602ab.8	There are plenty of TV channels to keep everyo...
149	63464783a460a009568a0ba0.10	Large living area with tv that you can cast to...

150 rows × 2 columns

```
In [127]: df.head()
Out[127]:
```

	ID	Ticket
0	6293381646078667a6590ea.0	hotel was dirty arcon broke in bedroom with...
1	63349a78a46078a0a05da2.4	The reports we read of smells in bathrooms ar...
2	63363079a46078a077a215ab.3	We had minor issues with lights not working A...
3	632575846034603a608b6.7	If however you go in September as we did whic...
4	608ba1846026a78a102ba0.0	The customer service we experienced wasn't ver...

cleaning and processing dataset

```
In [128]: df.shape
Out[128]: (150, 2)

In [129]: df.info()
Out[129]:
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 150 entries, 0 to 149
Data columns (total 2 columns):
#   column  non-null count  dtype
#   --
0   ID      150 non-null    object
1   Ticket  150 non-null    object
dtypes: object(2)
memory usage: 2.1+ kb

In [130]: df.isnull().sum()
Out[130]:
ID          0
Ticket      0
dtype: int64

In [131]: df.describe(include="object")
Out[131]:
```

	ID	Ticket
count	150	150
unique	150	150
top	6293381646078667a6590ea.0	hotel was dirty arcon broke in bedroom with...
freq	1	1

importing the affnn class libraries for sentimental analysis

```
In [132]: import affnn as af
In [133]: af = af.Affnn()
In [134]: def review_score(x):
Out[134]:
    return af.score(x)
In [135]: df['review_score'] = df['Ticket'].apply(review_score)
In [136]: df.head(50)
Out[136]:
```

	ID	Ticket	review_score
0	6293381646078667a6590ea.0	hotel was dirty arcon broke in bedroom with...	-5.0
1	63349a78a46078a0a05da2.4	The reports we read of smells in bathrooms ar...	-0.0
2	63363079a46078a077a215ab.3	We had minor issues with lights not working A...	-0.0
3	632575846034603a608b6.7	If however you go in September as we did whic...	-0.0
4	608ba1846026a78a102ba0.0	The customer service we experienced wasn't ver...	2.0
5	63249360a460785028959072.1	We did really need clean towels. hotel was col...	2.0
6	63277188a46034603a608b41b.8	The resort is alot of extremely high standard ...	2.0
7	63380344a608b978a2890.1	It helped us have a lovely week in this golf a...	14.0
8	632e15e0a460462785a0b7.5	The photos on the website are accurate except ...	0.0
9	632a0262a46016a4678a202b.1	When walking on the floors feet soon became ve...	-4.0
10	62a67718a460a69678a7370eb.1	Cleaning could have been better for a 2 week...	1.0
11	6323d6e4e0a603a6078a76c7.18	Just simply from a hygiene perspective lack of...	-4.0
12	616d9398a46034603a608b41b.8	The holiday was successful the house was excel...	0.0
13	63a111f8a46033a718a5d5c.1	Some notable mistakes: the locating instru...	2.0
14	6280e0a46034603a608b41b.8	The cleaning of the property could have been b...	-1.0
15	61579d1a6026a78a102ba0.0	As a family with young children the property w...	2.0
16	6272e24e0a60a78a102ba0.0	From my 5 year old girls race the teenagers a...	0.0
17	629215a6a46026a78a102ba0.0	When we got to the hotel, it wasn't very clean...	0.0
18	62816a7a0a4603a603a60778b.2	Maintenance man was really busy and would ar...	4.0
19	62a7a1a6a46026a78a102ba0.0	Problems range from broken sun loungers barbec...	-10.0

checking the most given reviews by reviews score 0 for neutral, - negative, + positive score

```
In [138]: df['review_score'].value_counts().plot(kind='bar')
Out[138]:
<Axes: xlabel='review_score'>
```


