Data Science Bootcamp T5

Summary :

In this project I chose a data set about an airline and my goal is to predict the level of passenger satisfaction.

Data set :

The data size is 3.04 MB

- ID
- Gender
- Customer
- Age
- Type of travel
- Class
- Flight Distance
- Inflight wifi service
- Departure/Arrival time convenient
- Ease of Online booking
- Gate location
- Food and drink
- Online boarding
- Seat comfort
- Inflight entertainment
- On-board service
- Leg room service
- Baggage handling
- Checkin service
- nflight service
- Cleanliness
- Departure Delay in Minutes
- Arrival Delay in Minutes
- Target: Satisfaction

Work :

- Drop missing data

```
[10]: df.dropna()
```

- Removing Duplicated rows

```
[14]: df.duplicated()
```

```
[14]: 0        False
      1        False
      2        False
      3        False
      4        False
               ...
      71544    False
      71545    False
      71546    False
      71547    False
      71548    False
      Length: 71549, dtype: bool
```

```
[15]: df.duplicated().sum()
```

```
[15]: 0
```

- Summary

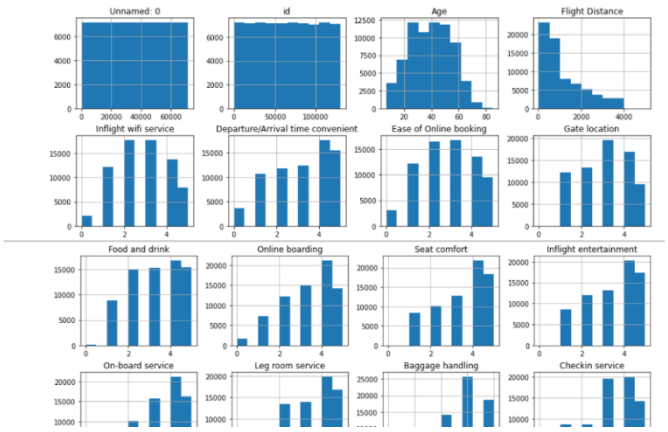
```
[16]: df.describe().T
```

[16]:

	count	mean	std	min	25%	50%	75%	max
Unnamed: 0	71549.0	35774.000000	20654.561542	0.0	17887.0	35774.0	53661.0	71548.0
id	71549.0	64815.304840	37475.852677	2.0	32406.0	64714.0	97240.0	129880.0
Age	71549.0	39.382857	15.099017	7.0	27.0	40.0	51.0	85.0
Flight Distance	71549.0	1187.926722	996.140346	31.0	413.0	840.0	1739.0	4983.0
Inflight wifi service	71549.0	2.733204	1.330131	0.0	2.0	3.0	4.0	5.0
Departure/Arrival time convenient	71549.0	3.059735	1.527065	0.0	2.0	3.0	4.0	5.0
Ease of Online booking	71549.0	2.756391	1.399490	0.0	2.0	3.0	4.0	5.0
Gate location	71549.0	2.973934	1.278876	0.0	2.0	3.0	4.0	5.0
Food and drink	71549.0	3.205565	1.331446	0.0	2.0	3.0	4.0	5.0
Online boarding	71549.0	3.252359	1.349354	0.0	2.0	3.0	4.0	5.0
Seat comfort	71549.0	3.442941	1.320747	0.0	2.0	4.0	5.0	5.0
Inflight entertainment	71549.0	3.359027	1.333851	0.0	2.0	4.0	4.0	5.0
On-board service	71549.0	3.381669	1.288191	0.0	2.0	4.0	4.0	5.0
Leg room service	71549.0	3.348279	1.312775	0.0	2.0	4.0	4.0	5.0
Baggage handling	71549.0	3.634069	1.180745	1.0	3.0	4.0	5.0	5.0
Checkin service	71548.0	3.308338	1.263416	0.0	3.0	3.0	4.0	5.0

- Histogram

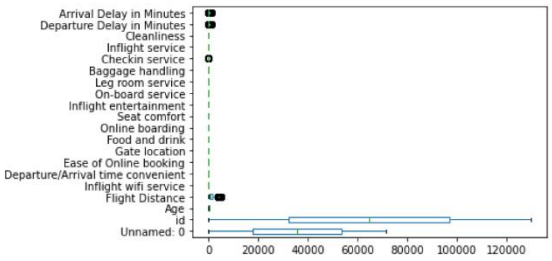
```
[19]: hist = df.hist(bins=10,figsize =(15,15))
```



- Review Outliers

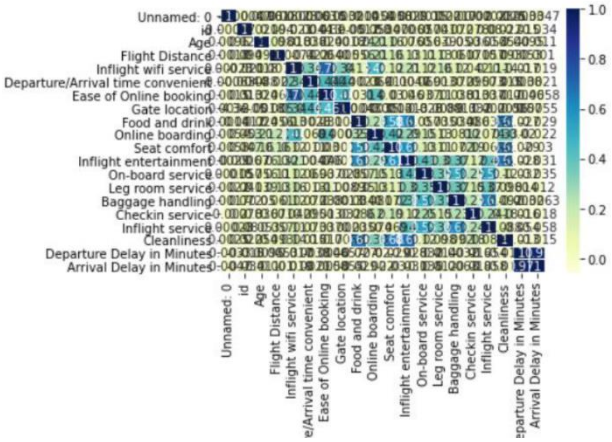
  Create box plot for all columns

```
[23]: bxplt = df.boxplot(grid=False, vert=False,fontsize=10)
```

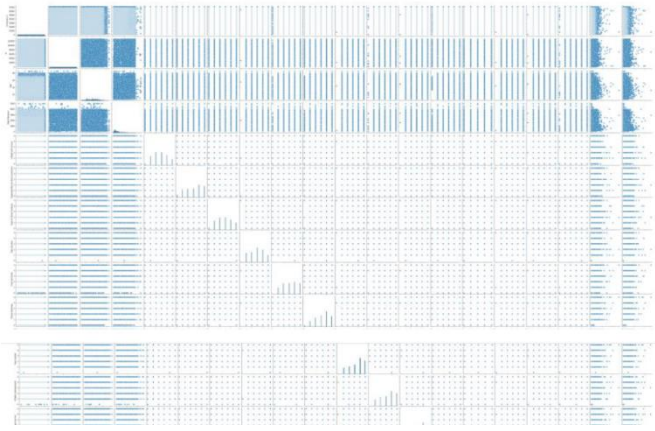


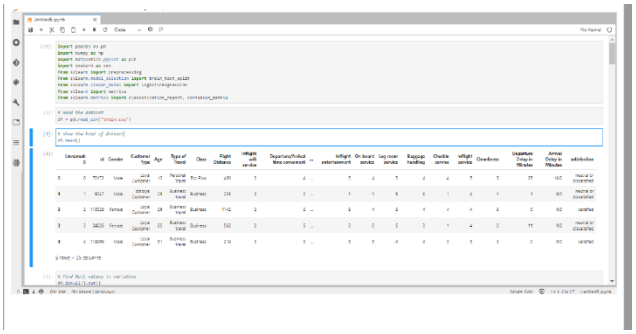
Identify outliers . the column at left side.

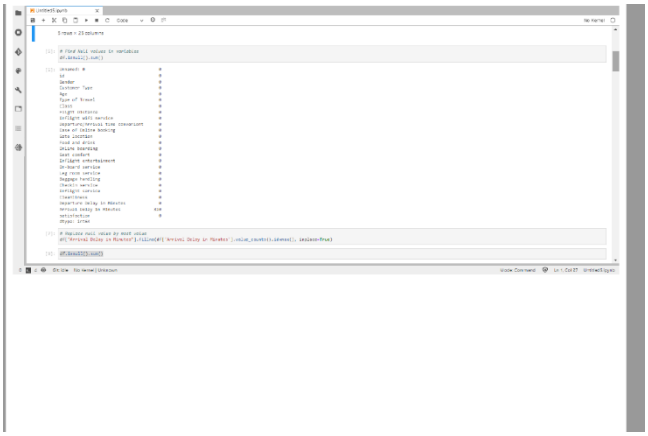
- Data Relation

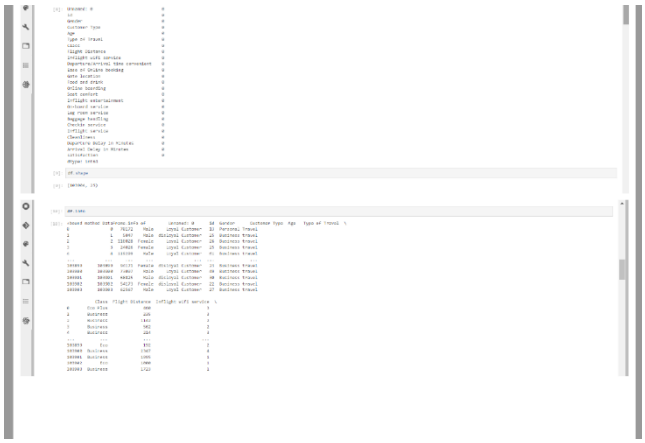


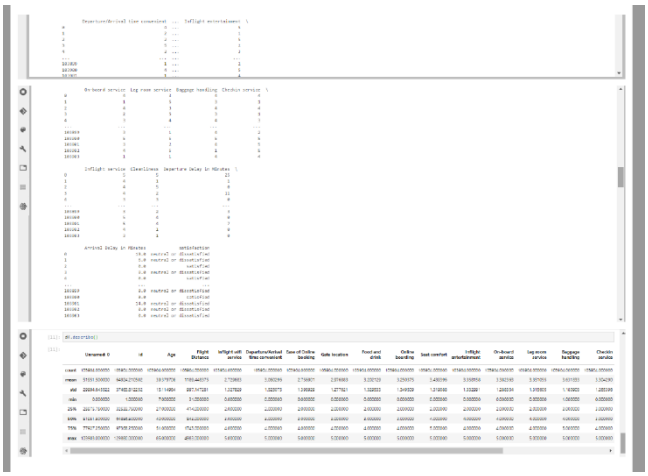
- Pair plots , Evaluate the column distribution against each other columns

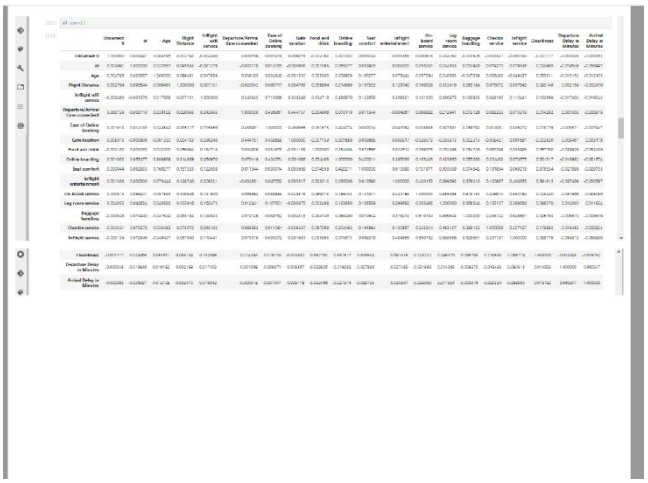


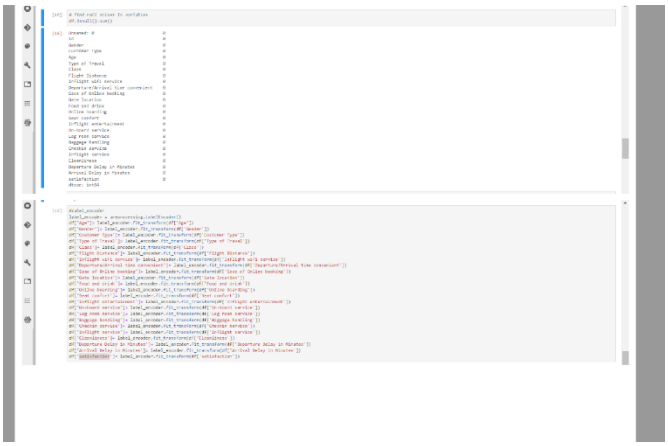


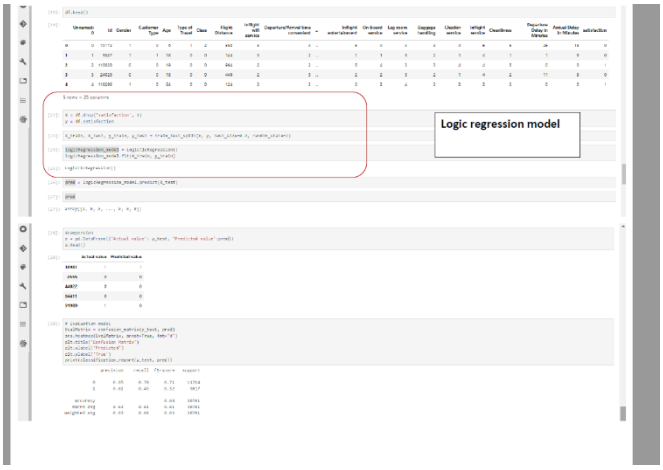


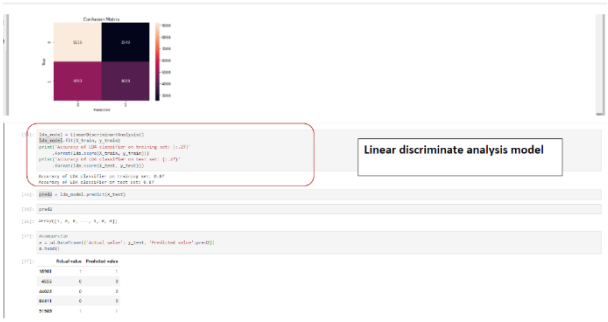


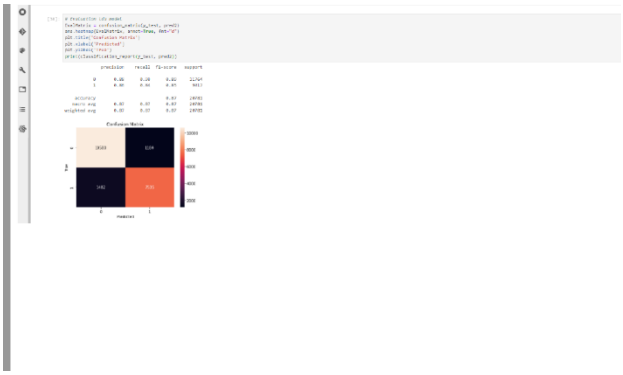







Logic regression model





Conclusion :

During the four weeks of learning, I applied what I learned in my project of data cleaning, analysis and modeling to suit my output based on my data set.