question-8

June 6, 2023

Question 8 -

Using the data from Question 5, write code the analyze the data and answer the following questions
Note -

1. Draw plots to demonstrate the analysis for the following questions and better visualizations
2. Write code comments wherever required for code understanding

Insights to be drawn -

Get all the overall ratings for each season and using plots compare the ratings for all the seasons, like season 1 ratings, season 2, and so on.

Get all the episode names, whose average rating is more than 8 for every season

Get all the episode names that aired before May 2019

Get the episode name from each season with the highest and lowest rating

Get the summary for the most popular (ratings) episode in every season

Ans:

[1]:
```
import numpy as np
import pandas as pd
import ast
```

[2]:
```
df = pd.read_csv("Output.csv")
```

[3]:
```
df.head()
```

[3]:
```
        id                                                url  \
0   869671  https://www.tvmaze.com/episodes/869671/westwor…
1   911201  https://www.tvmaze.com/episodes/911201/westwor…
2   911204  https://www.tvmaze.com/episodes/911204/westwor…
3   911205  https://www.tvmaze.com/episodes/911205/westwor…
4   927174  https://www.tvmaze.com/episodes/927174/westwor…

                 name  season  number     type     airdate airtime  \
0       The Original       1       1  regular  2016-10-02   21:00
1           Chestnut       1       2  regular  2016-10-09   21:00
2         The Stray        1       3  regular  2016-10-16   21:00
```

```
3  Dissonance Theory       1       4  regular  2016-10-23   21:00
4         Contrapasso      1       5  regular  2016-10-30   21:00

                    airstamp  runtime            rating  \
0  2016-10-03T01:00:00+00:00       68    {'average': 8}
1  2016-10-10T01:00:00+00:00       60  {'average': 7.7}
2  2016-10-17T01:00:00+00:00       60  {'average': 7.6}
3  2016-10-24T01:00:00+00:00       60  {'average': 7.9}
4  2016-10-31T01:00:00+00:00       60    {'average': 8}

                                              image  \
0  {'medium': 'https://static.tvmaze.com/uploads/…
1  {'medium': 'https://static.tvmaze.com/uploads/…
2  {'medium': 'https://static.tvmaze.com/uploads/…
3  {'medium': 'https://static.tvmaze.com/uploads/…
4  {'medium': 'https://static.tvmaze.com/uploads/…

                                             summary  \
0  <p>A woman named Dolores is a free spirit in t…
1  <p>Bernard suspects that someone is sabotaging…
2  <p>Bernard continues to investigate Dolores' s…
3  <p>While Dolores joins William and Logan on th…
4  <p>Dolores takes the first step on her path of…

                                             _links
0  {'self': {'href': 'https://api.tvmaze.com/epis…
1  {'self': {'href': 'https://api.tvmaze.com/epis…
2  {'self': {'href': 'https://api.tvmaze.com/epis…
3  {'self': {'href': 'https://api.tvmaze.com/epis…
4  {'self': {'href': 'https://api.tvmaze.com/epis…
```

[4]:
```
df.shape
```

[4]:
```
(36, 14)
```

[5]:
```
df["rating"] = df["rating"].apply(lambda x : x.split("}")[0].split(":")[1])
```

[6]:
```
df1 = df.copy()
```

[7]:
```
# Get all the episode names, whose average rating is more than 8 for every␣
 ↪season
df1["rate_TF"] = df["rating"].astype(float) > 8.0
df1.loc[df1["rate_TF"] == True]["name"]
```

[7]:
```
6                 Trompe L'Oeil
8     The Well-Tempered Clavier
9             The Bicameral Mind
```

```
17                      Kiksuya
18               Vanishing Point
19                 The Passenger
Name: name, dtype: object
```

[ ]:

[8]:
```
# Get all the episode names that aired before May 2019
df1["air_year"] = df1["airdate"].apply(lambda x : int(x.split("-")[0]))
df1["air_year_TF"] = df1["air_year"] < 2019
df1.loc[df1["air_year_TF"] == True]["name"]
```

[8]:
```
0                   The Original
1                       Chestnut
2                     The Stray
3              Dissonance Theory
4                    Contrapasso
5                  The Adversary
6                  Trompe L'Oeil
7                    Trace Decay
8     The Well-Tempered Clavier
9             The Bicameral Mind
10            Journey Into Night
11                       Reunion
12               Virtù e Fortuna
13     The Riddle of the Sphinx
14                  Akane No Mai
15                   Phase Space
16                  Les Écorchés
17                      Kiksuya
18               Vanishing Point
19                 The Passenger
Name: name, dtype: object
```

[ ]:

[9]:
```
# Get the episode name from each season with the highest and lowest rating
df["rating"] = df["rating"].astype(float)
```

[10]:
```
mx = df["rating"].idxmax()
mi = df["rating"].idxmin()
df.loc[mx]["name"], df.loc[mi]["name"]
```

[10]:
```
('The Bicameral Mind', 'The Auguries')
```

[11]:
```
# Get the summary for the most popular ( ratings ) episode in every season
```

```
df1["pop"] = pd.Series(list(dict(df.groupby(["name"])["rating"].sum() > 8).
 ↪values()))
```

[12]:
```
df1["pop"]
```

[12]:
```
0     False
1     False
2     False
3     False
4     False
5     False
6     False
7     False
8     False
9     False
10    False
11     True
12    False
13    False
14    False
15    False
16    False
17    False
18    False
19    False
20    False
21    False
22     True
23    False
24    False
25     True
26    False
27    False
28     True
29    False
30    False
31     True
32     True
33    False
34    False
35    False
Name: pop, dtype: bool
```

[13]:
```
df.loc[df1["pop"] == True]["name"]
```

[13]:
```
11                 Reunion
22    The Absence of Field
```

```
25             Decoherence
28           The Auguries
31        Generation Loss
32               Zhuangzi
Name: name, dtype: object
```

[ ]:

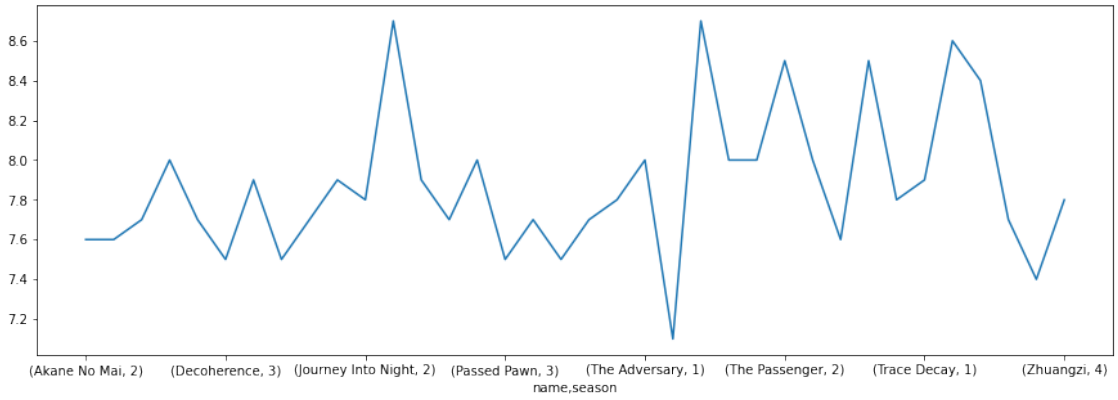
[14]:
```
# Get all the overall ratings for each season and using plots compare the␣
 ↪ratings for all the seasons,
# like season 1 ratings, season 2, and so on.

df.groupby(["name", "season"])["rating"].sum()
```

[14]:
```
name                      season
Akane No Mai              2         7.6
Années Folles             4         7.6
Chestnut                  1         7.7
Contrapasso               1         8.0
Crisis Theory             3         7.7
Decoherence               3         7.5
Dissonance Theory         1         7.9
Fidelity                  4         7.5
Generation Loss           4         7.7
Genre                     3         7.9
Journey Into Night        2         7.8
Kiksuya                   2         8.7
Les Écorchés              2         7.9
Metanoia                  4         7.7
Parce Domine              3         8.0
Passed Pawn               3         7.5
Phase Space               2         7.7
Que Será, Será            4         7.5
Reunion                   2         7.7
The Absence of Field      3         7.8
The Adversary             1         8.0
The Auguries              4         7.1
The Bicameral Mind        1         8.7
The Mother of Exiles      3         8.0
The Original              1         8.0
The Passenger             2         8.5
The Riddle of the Sphinx  2         8.0
The Stray                 1         7.6
The Well-Tempered Clavier 1         8.5
The Winter Line           3         7.8
Trace Decay               1         7.9
Trompe L'Oeil             1         8.6
```

```
Vanishing Point            2         8.4
Virtù e Fortuna            2         7.7
Well Enough Alone          4         7.4
Zhuangzi                   4         7.8
Name: rating, dtype: float64
```

[15]:
```
df.groupby(["name", "season"])["rating"].sum().plot(figsize=(15, 5))
```

[15]:
```
<AxesSubplot:xlabel='name,season'>
```



[ ]:
```
```