1.Team Name Normalization

1 Some team names appear in different textual formats (e.g., case differences or extra spaces). Clean the team1 and team2 columns by:

- 2. Converting text to lowercase
- 3. Removing leading/trailing spaces
- 4. Verifying unique team names after cleaning

```python
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

```python
df=pd.read_csv('/content/drive/MyDrive/data.csv')
print(df)
```

```
      id  season       city        date                    team1  \
0      1    2008   Bangalore  2008-04-18     Kolkata Knight Riders
1      2    2008  Chandigarh  2008-04-19       Chennai Super Kings
2      3    2008       Delhi  2008-04-19          Rajasthan Royals
3      4    2008      Mumbai  2008-04-20            Mumbai Indians
4      5    2008     Kolkata  2008-04-20           Deccan Chargers
..   ...     ...         ...         ...                      ...
572  573    2016      Raipur  2016-05-22          Delhi Daredevils
573  574    2016   Bangalore  2016-05-24             Gujarat Lions
574  575    2016       Delhi  2016-05-25       Sunrisers Hyderabad
575  576    2016       Delhi  2016-05-27             Gujarat Lions
576  577    2016   Bangalore  2016-05-29       Sunrisers Hyderabad

                          team2                  toss_winner toss_decision  \
0    Royal Challengers Bangalore  Royal Challengers Bangalore         field
1                Kings XI Punjab          Chennai Super Kings           bat
2               Delhi Daredevils             Rajasthan Royals           bat
3    Royal Challengers Bangalore               Mumbai Indians           bat
4          Kolkata Knight Riders              Deccan Chargers           bat
..                           ...                          ...           ...
572  Royal Challengers Bangalore  Royal Challengers Bangalore         field
573  Royal Challengers Bangalore  Royal Challengers Bangalore         field
574        Kolkata Knight Riders        Kolkata Knight Riders         field
575          Sunrisers Hyderabad          Sunrisers Hyderabad         field
576  Royal Challengers Bangalore          Sunrisers Hyderabad           bat

     result  dl_applied                       winner  win_by_runs  \
0    normal           0        Kolkata Knight Riders          140
1    normal           0          Chennai Super Kings           33
2    normal           0             Delhi Daredevils            0
3    normal           0  Royal Challengers Bangalore            0
4    normal           0        Kolkata Knight Riders            0
..      ...         ...                          ...          ...
572  normal           0  Royal Challengers Bangalore            0
573  normal           0  Royal Challengers Bangalore            0
574  normal           0          Sunrisers Hyderabad           22
575  normal           0          Sunrisers Hyderabad            0
576  normal           0          Sunrisers Hyderabad            8

     win_by_wickets player_of_match  \
0                 0     BB McCullum
1                 0     MEK Hussey
2                 9     MF Maharoof
3                 5     MV Boucher
4                 5      DJ Hussey
..              ...             ...
572               6        V Kohli
573               4  AB de Villiers
574               0    MC Henriques
575               4       DA Warner
576               0     BCJ Cutting

                                         venue     umpire1  \
0                         M Chinnaswamy Stadium    Asad Rauf
1    Punjab Cricket Association Stadium, Mohali   MR Benson
2                            Feroz Shah Kotla     Aleem Dar
3                             Wankhede Stadium     SJ Davis
4                                 Eden Gardens    BF Bowden
```

```python
df.shape
```

```
(577, 18)
```

```python
print(df['team1'], df['team2'])
```