<R Programming> PROJECT REPORT

(Project Semester January-May 2024)

IPL Data Analysis

Submitted by

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Programme and Section: CSE(K22QY)

Course Code: INT232

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Discipline of CSE/IT

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Introduction:

Sports analytics is one of the metric which will be done in all types of games all over the world. This will not enhance the prediction of the game, it will help us in analyzing the team performance and also the individual player performance through which team can improve its performance and drive towards the winning line. In this analysis we will be analyzing one of the famous sports cricket and we will be taking data of the IPL game.

Source of dataset:

- Overview Dataset
- Matches Dataset
- Deliveries Dataset
- Deliveries2 Dataset

Explaining the Dataset:

The dataset comprises multiple files, including matches and deliveries data, providing detailed information about each IPL match's teams, players, venues, and outcomes.

Missing Values Handling:

Missing values in the dataset were minimal and didn't significantly impact the analysis. Therefore, we opted to omit them from the dataset.

Libraries Utilized:

Several R libraries were used for data manipulation, visualization, and analysis, including lubridate, tidyverse, ggplot2, data.table, and others.

Data Dictionary:

A data dictionary was created to elucidate the variables used in the analysis, including descriptions and types.

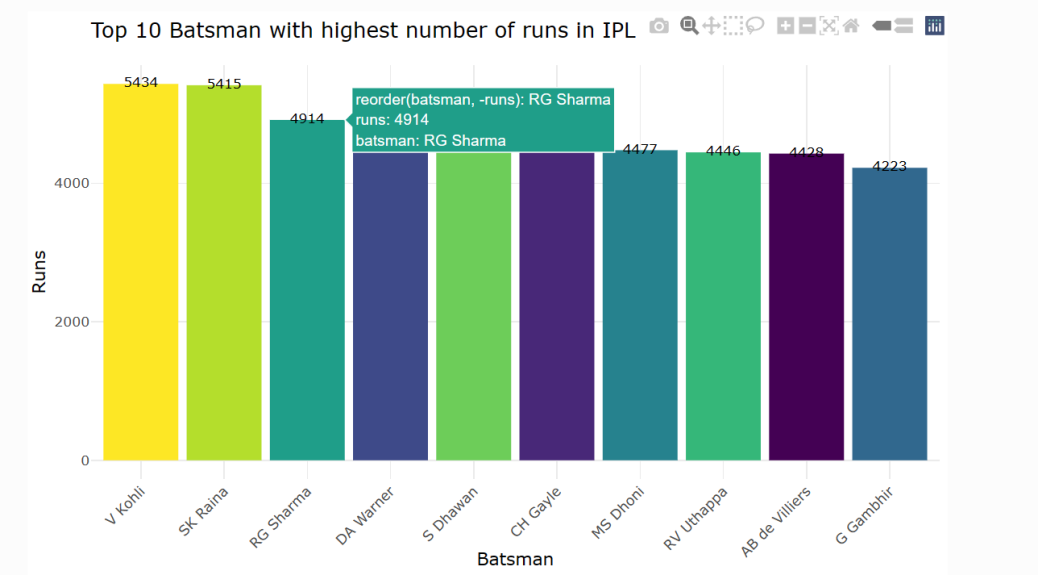
Variable	Description	Type

Win_by_run	Winning run by batting team	integer
City	Matches held in which city	character
Win_by_wickets	Winning wickets by bowling team	integer
Team1	Teams in Group 1	character
Team2	Teams in Group 2	character
Winner	Name of the Winning Team	character
Toss_decision	Decision taken by team either bat or field	character
Toss_winner	Name of the team winning toss	character
Batsman_runs	Number of runs scored by each player	integer

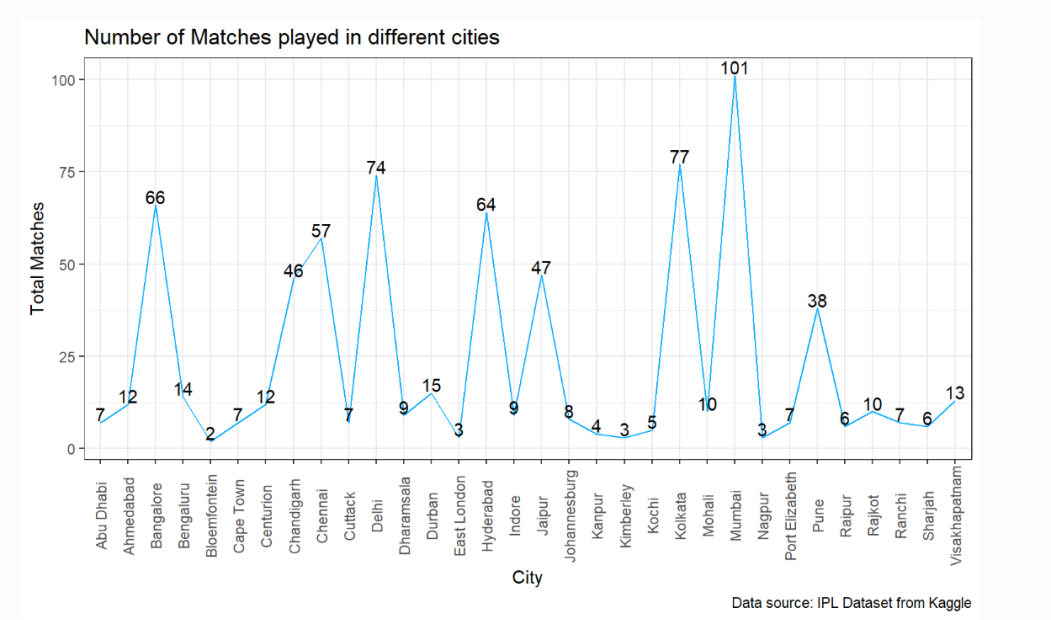
Data Visualizations:

Top 10 Players with the Highest Number of Runs:

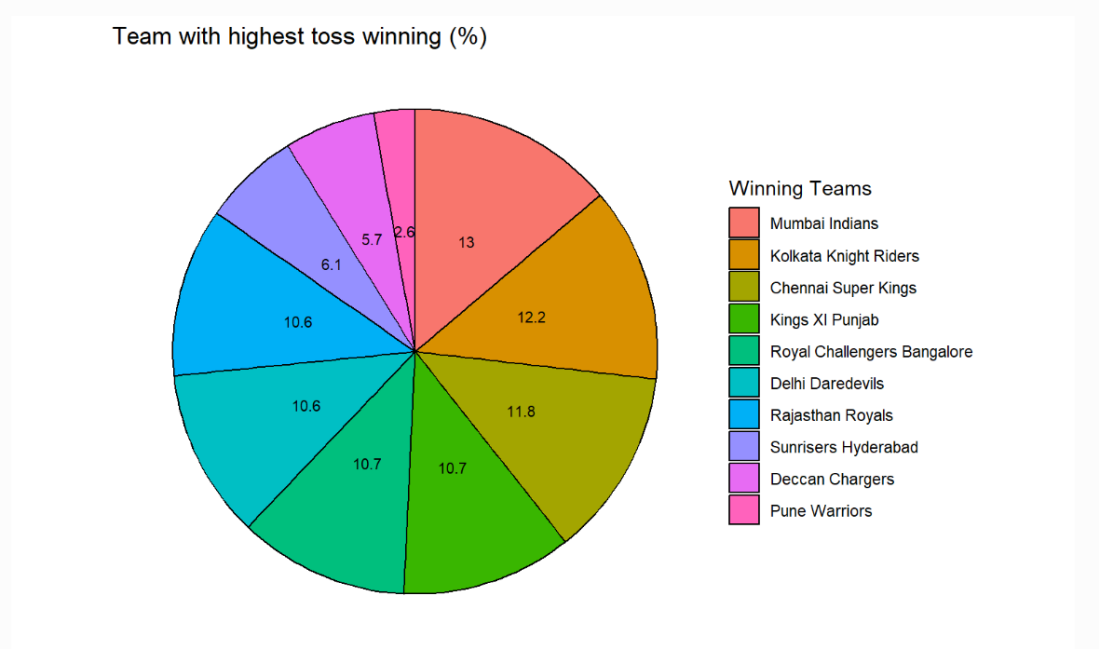
A bar chart was generated to visualize the top 10 players with the highest number of runs using the plotly library.



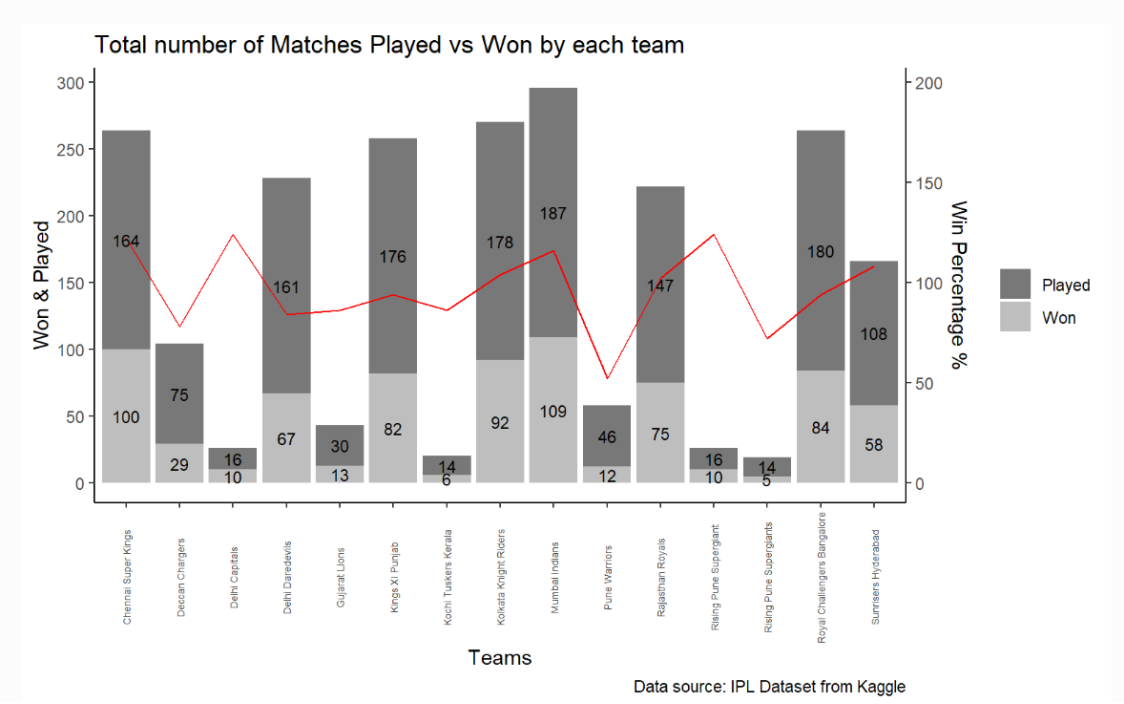
Total number of matches in each city:



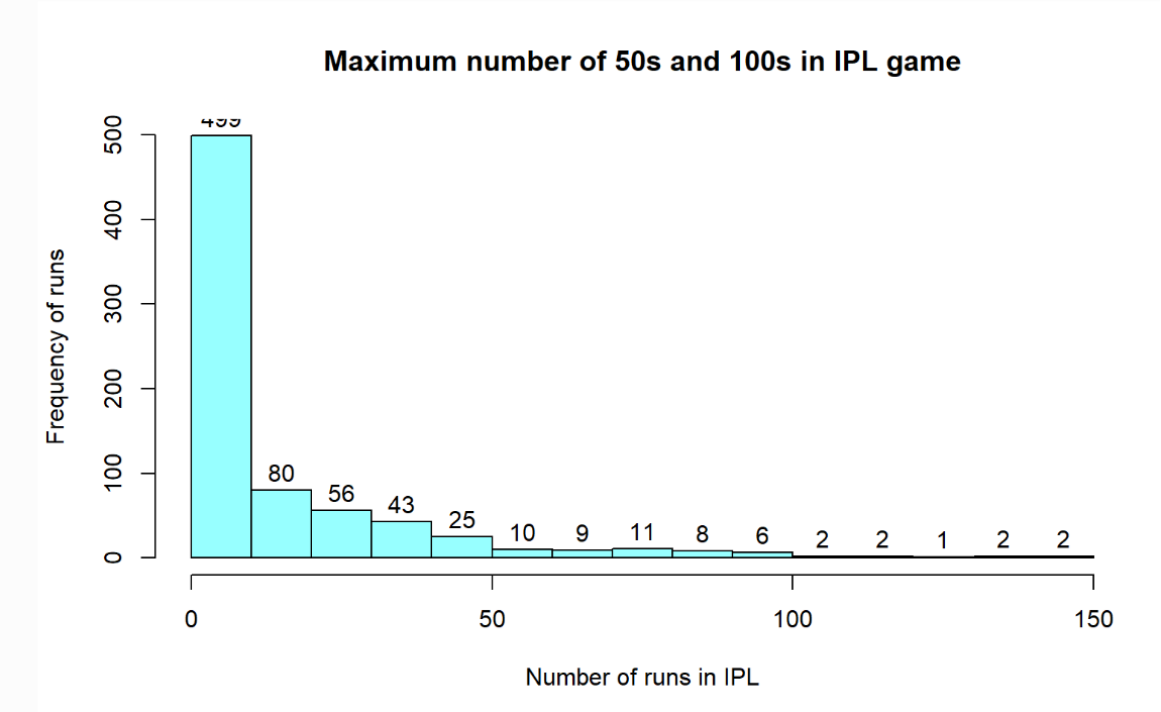
Teams which have won the highest number of toss:



Merge at least two tables, and create a plot or table of summary statistics that is a result of the merged data set:



Count for the number of 50s and 100s in IPL:



Summary Statistics:

Summary statistics were computed for key quantitative variables, including win_by_runs and win_by_wickets, grouped by city and team1, respectively.

Dashboard Link:

This dashboard provides visualization of top batsman, highest tossing rate and runs summary table by grouping with city name.

https://santoshshanu.github.io/IPL-data-analysis-R/

Conclusion:

This analysis provides valuable insights into IPL match data, including team performances, player contributions, and strategic decisions. Further exploratory analysis and modeling could yield deeper insights into game dynamics and performance drivers.

Reference:

Some of the codes where referred from the class activity and made changes accordingly to fit the data analysis of my project.

CERTIFICATE

This is to certify that **Akshat Sharma** bearing Registration no. **12218629** has completed **INT232** project titled, **"IPL Data Analysis"** under my guidance and supervision. To the best of my knowledge, the present work is the result of his original development, effort and study.

Signature and Name of the Supervisor

Designation of the Supervisor

School of …….

Lovely Professional University

Phagwara, Punjab.

Date:

DECLARATION

I **Akshat Sharma** student of **Data Science** under CSE/IT Discipline at, Lovely Professional University, Punjab, hereby declare that all the information furnished in this project report is based on my own intensive work and is genuine.

Date: 18-04-2024 **Signature**

Name of the student: Akshat Sharma

Registration No:

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