

# IPL 2008-2017 DATASET

Dataset(matches.csv) collected from Kaggle website

[linked phrase](#)

## Dataset Description:-

No. of columns- 18

No. of Rows- 636

Dataset contains Result of Every Match played in the history of IPL from 2008 to 2017.

## Columns Description:-

- 1- In which city Match was played.(Column no. 3)
- 2- Date of Match.(Column no. 4)
- 3- Which two teams played the match (Column no 5 and 6)
- 4- Which Team Won the Toss(Column no 7)
- 5- Team choosed batting or fielding after winning toss(Column no 8)
- 6- Which Match was Tie, Normal and No result.(Column no 9)
- 7- Match was affected by weather or not(Column no 10)
- 8- Which Team Won the Match(Column no 11)
- 9- By how many runs or wickets team won the game(Column no 12 and 13)
- 10-Which player got the player of the Match(Column no 14)
- 11-In which Ground Match was played.(Column no 15)
- 12-Which two umpires featured in the match(Column no 16,17,and 18)

## Questions that we ask from the dataset

- Q1- How many matches a Team won in a single season and also in entire IPL
- Q2- How many Toss a Team won in a single season and also in entire IPL
- Q3- How many were Normal, Tied, and No result Matches.
- Q4- How many matches were affected by weather.
- Q5- Which Player won most Man of the Player award.
- Q6- How many Matches in which Team batting first won.

Q7- How many Matches in which Team batting Second won.

Q8- Which Team Won the IPL

Q9- Which is Most Consistent Team of IPL

Q10-Who is Most Consistent Player of IPL

Q11-Average Winning Runs

Q12-Average Winning Wickets

## Pre-Processing Done on the dataset

1- **Removal of unnecessary Variables** (Sr no, Date, Venue) because these variables will not be used to infer anything.

2- **Converting Categorical Variables to Numerical variables** (Toss decision(Field/Bat) and Result(Normal/Tie/NoResult))

3- **Filtering data** on the basis of seasons

4- **Missing Value Prediction:-**

There is a entry missing in Umpire1 and Umpire2. We calculated The Most featured Umpire of all matches and assigned him to the missing value.

## After Pre-Processing

We get the dataset which have no missing values, no categorical variables, smaller datasets to get better inferences, and dataset with only necessary variables.

Ways to **address the questions** asked above.

**Ans1-** To show how many matches a team won in a season, we have taken **sum of unique values** from the column '**Winner**' from the dataset named '**dataset\_2013**'. Similarly to show how many matches a team won in the history of IPL we have taken sum of unique values from the column 'Winner' from the original dataset(named 'dataset').

Its resultant dataset is **matches\_won\_by\_a\_team**

**Ans2-** To analyse which team have been lucky in the matter of toss, we have taken **sum of unique values** from the column '**Toss**' from both the dataset named, '**dataset\_2013**' and '**dataset**'.

We have made a separate data frame(**Toss\_Won\_by\_a\_team**) showing the result.

**Ans3-** There is a column 'Result' stating which match was a normal match, no result match or a tied match. To see how many matches were Normal, tie or no result match we summed up the data from this column and made a separate

dataframe which shows how many matches resulted in a normal/tie/No result match both in a season and in an entire IPL.

Dataframe- '**Normal\_tie and Normal\_and\_tie\_and\_noresult**'

**Ans4-** Column "**dl\_applied**" shows the whether D/L Method was used in the match or not. So we calculated in how many matched D/L Method was used by adding the values of the column. 0 represents D/L Method was not applied and 1 represents D/L Method was applied.

**Ans5-** We inferred from the column "**player\_of\_the\_match**", which player won the Man of the Match award **MAXIMUM** times. We calculated sum of the unique players from the column and saved it into a new dataframe named, "**Man\_of\_the\_match\_won\_by\_a\_player**"

**Ans6 and Ans7-** From the column, "**win\_by\_runs and win\_by\_wickets**" we calculated how many matches were won by the side batting first and by the side battin second. We took the **SUM of only NON ZERO ENTRIES** from both the columns and stored in two dataframes, "**Matches\_Won\_batting\_first**" and "**Matches\_Won\_batting\_second**"

**Ans8-** The Team which won the maximum number of matches should be the winner of IPL. So from the first Question, we extract the **entry corressponding to MAXIMUM** no. of Matches.

**Ans9-** Most Consistent Team is that team which won the maximum number of matches in the history of IPL. So again we took the sum of unique entries from the column **Winner** of original dataset.

**Ans10-** We choosed the most consistent player of the IPL as the one who won the maximum number of Man of the Match award.

**Ans11 and Ans12-** From win\_by\_runs column and win\_by\_wickets column we can get the average winning runs and average winning wickets. We have also shown **BOX PLOT** of both average winning runs and average winning wickets.

**Code and Output:-**

```

#Import the dataset

dataset<- read.csv('IDS.csv')

#----PRE PROCESSING START-----

#Remove unnecessary variables

dataset<-dataset[,-c(1,4,15)]

#Encoding Categorical Data

dataset$toss_decision = factor(dataset$toss_decision,
                                levels = c('field', 'bat'),
                                labels = c(1, 2))

dataset$result = factor(dataset$result,
                          levels = c('normal', 'tie', 'no result'),
                          labels = c(1, 2, 3))

#Season wise dataset

#install.package('dplyr')

library(dplyr)

```

```

##
## Attaching package: 'dplyr'

```

```

## The following objects are masked from 'package:stats':
##
##     filter, lag

```

```

## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union

```

```

dataset_2017<-filter(dataset,season==2017)

dataset_2016<-filter(dataset,season==2016)

dataset_2015<-filter(dataset,season==2015)

dataset_2014<-filter(dataset,season==2014)

dataset_2013<-filter(dataset,season==2013)

dataset_2012<-filter(dataset,season==2012)

dataset_2011<-filter(dataset,season==2011)

dataset_2010<-filter(dataset,season==2010)

dataset_2009<-filter(dataset,season==2009)

dataset_2008<-filter(dataset,season==2008)

#Missing value prediction
#No umpire is assigned to a match played between royal challenger banglore and delhi daredevil in IPL 2017
#First we will assign NA to missing valule then
#We will assign those two umpires which are featured most in the IPL 2017

#NA to missing values
library(zoo)

```

```

##
## Attaching package: 'zoo'

```

```
## The following objects are masked from 'package:base':
##
##      as.Date, as.Date.numeric
```

```
dataset_2017$umpire1[dataset_2017$umpire1 == ""] <- NA
dataset_2017$umpire2[dataset_2017$umpire2 == ""] <- NA

#finding most featured umpires
umpire1_appearance<- aggregate(data.frame(No_of_match = dataset_2017$umpire1), list(Umpire1 = dataset_2017$umpire1), length)
max_match<-which.max(umpire1_appearance$No_of_match)
umpire1<-umpire1_appearance[4,1]

umpire2_appearance<- aggregate(data.frame(No_of_match = dataset_2017$umpire2), list(Umpire2 = dataset_2017$umpire2), length)
max_match2<-which.max(umpire2_appearance$No_of_match)
umpire2<-umpire2_appearance[10,1]

#Replacing NA with most featured umpires(i.e umpire1 and umpire2)
dataset_2017$umpire1[is.na(dataset_2017$umpire1)]<-umpire1

dataset_2017$umpire2[is.na(dataset_2017$umpire2)]<-umpire2

#-----PRE-PROCESSING END-----

#INFERENCES from a particular season of IPL 2013 dataset

#1 Total number of matches won by a team in entire season
matches_won_by_a_team<- aggregate(data.frame(Matches_Won = dataset_2013$winner), list(Team = dataset_2013$winner), length)
matches_won_by_a_team<-matches_won_by_a_team[rev(order(matches_won_by_a_team$Matches_Won)),]
matches_won_by_a_team
```

```
##
##      Team Matches_Won
## 5      Mumbai Indians      13
## 1      Chennai Super Kings      12
## 7      Rajasthan Royals      11
## 9      Sunrisers Hyderabad      10
## 8 Royal Challengers Bangalore      9
## 3      Kings XI Punjab      8
## 4      Kolkata Knight Riders      6
## 6      Pune Warriors      4
## 2      Delhi Daredevils      3
```

```
#2 Total number of Toss win by a team in entire season
toss_won_by_a_team<- aggregate(data.frame(Toss_Won = dataset_2013$toss_winner), list(Team = dataset_2013$toss_winner), length)
toss_won_by_a_team<-toss_won_by_a_team[rev(order(toss_won_by_a_team$Toss_Won)),]
toss_won_by_a_team
```

```
##
##      Team Toss_Won
## 5      Mumbai Indians      12
## 4      Kolkata Knight Riders      12
## 7      Rajasthan Royals      11
## 6      Pune Warriors      9
## 1      Chennai Super Kings      8
## 9      Sunrisers Hyderabad      7
## 3      Kings XI Punjab      7
## 8 Royal Challengers Bangalore      5
## 2      Delhi Daredevils      5
```

```
#3 Number of normal and Tie matches
Normal_and_tie<- aggregate(data.frame(Number_of_matches = dataset_2013$result), list(Result = dataset_2013$result), length)
Normal_and_tie
```

```
##      Result Number_of_matches
## 1         1             74
## 2         2             2
```

*#4 Number of matches affected by weather*

```
dl_applied<- aggregate(data.frame(Number_of_matches = dataset_2013$dl_applied), list(dl_applied = dataset_2013$dl_applied), length)
dl_applied
```

```
##      dl_applied Number_of_matches
## 1             0             76
```

*#5 Most number of Player of the match*

```
Man_of_the_match_won_by_a_player<- aggregate(data.frame(MOM_won = dataset_2013$player_of_match), list(Player = dataset_2013$player_of_match), length)
Man_of_the_match_won_by_a_player<-Man_of_the_match_won_by_a_player[rev(order(Man_of_the_match_won_by_a_player$MOM_won)),]
Man_of_the_match_won_by_a_player
```

```
##      Player MOM_won
## 27      MEK Hussey      5
## 1       A Mishra      4
## 44      V Kohli      3
## 30      MS Dhoni      3
## 22      KA Pollard     3
## 10      DA Miller      3
## 9       CH Gayle      3
## 5       AM Rahane      3
## 37      SK Raina      2
## 36      RG Sharma      2
## 35      RA Jadeja      2
## 32      PA Patel      2
## 28      MG Johnson     2
## 21      JP Faulkner     2
## 20      JH Kallis      2
## 15      GH Vihari      2
## 14      G Gambhir      2
## 13      DR Smith      2
## 11      DA Warner      2
## 46      YK Pathan      1
## 45      V Sehwag      1
## 43      SV Samson      1
## 42      SR Watson      1
## 41      SR Tendulkar    1
## 40      SPD Smith      1
## 39      SP Narine      1
## 38      SK Trivedi     1
## 34      R Vinay Kumar   1
## 33      R Dravid      1
## 31      MS Gony      1
## 29      MK Pandey      1
## 26      M Vohra      1
## 25      LJ Wright      1
## 24      KK Cooper      1
## 23      KD Karthik     1
## 19      JD Unadkat     1
## 18      I Sharma      1
## 17      Harmeet Singh   1
## 16      Harbhajan Singh 1
## 12      DJG Sammy      1
## 8       BJ Hodge      1
## 7       Azhar Mahmood   1
## 6       AP Tare      1
## 4       AJ Finch      1
## 3       AC Gilchrist   1
## 2       AB de Villiers 1
```

```
#6 Number of matches won batting first
Matches_won_batting_first <- as.data.frame(length(which(dataset_2013$win_by_runs != 0)))
colnames(Matches_won_batting_first)[1]<-"Matches_Won_Batting_First"
Matches_won_batting_first
```

```
##      Matches_Won_Batting_First
## 1                          37
```

```
#7 Number of matches won batting Second
Matches_won_batting_Second <- as.data.frame(length(which(dataset_2013$win_by_wickets != 0)))
colnames(Matches_won_batting_Second)[1]<-"Matches_Won_Batting_Second"

Batting_First_Second<-merge(Matches_won_batting_first,Matches_won_batting_Second)
Batting_First_Second$Tied_Match<-2
Matches_won_batting_Second
```

```
##      Matches_Won_Batting_Second
## 1                          37
```

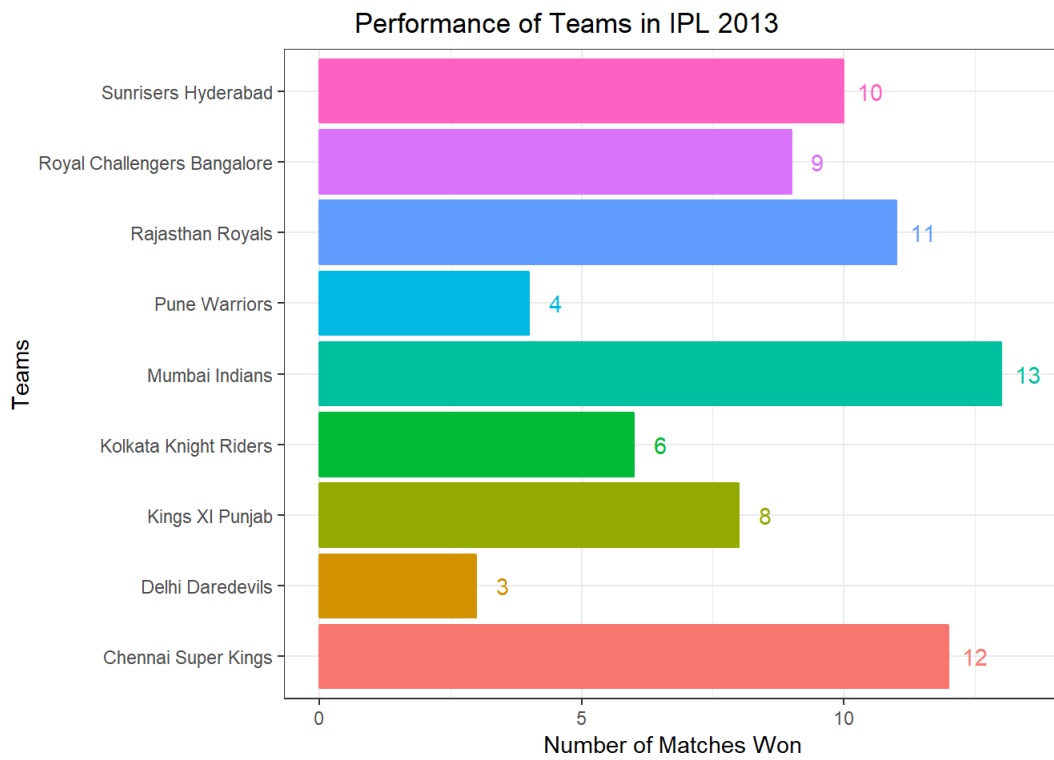
```
#8 Winner of IPL 2013
Winning_Team<-as.data.frame(matches_won_by_a_team[which.max(matches_won_by_a_team$Matches_Won),1])
colnames(Winning_Team)[1]<-"Winner_IPL"
Winning_Team
```

```
##      Winner_IPL
## 1 Mumbai Indians
```

```
#Visualisation for IPL 2013
```

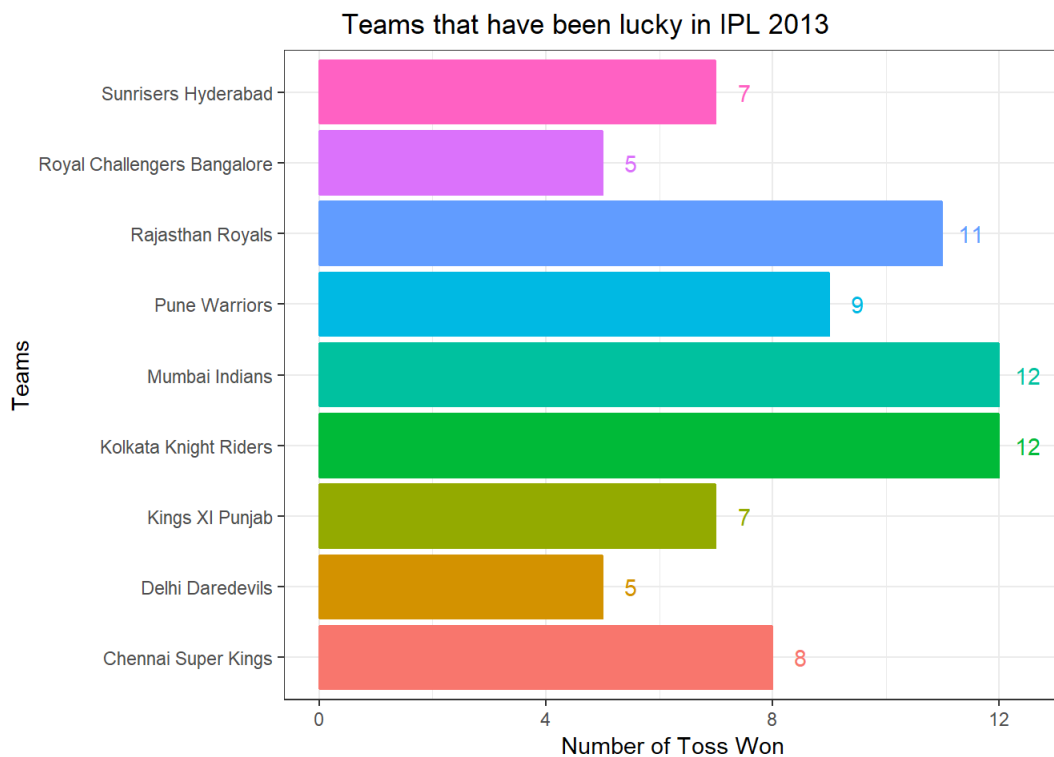
```
library(ggplot2)
plot1<-ggplot(data=matches_won_by_a_team, aes(x=Team, y=Matches_Won,color=Team,fill=Team,labels=Matches_Won)
) +
  geom_col()+
  ggtitle("Performance of Teams in IPL 2013")+
  xlab("Teams") + ylab("Number of Matches Won") +
  theme_bw() + theme(legend.position = "none") +
  theme(plot.title = element_text(hjust = 0.2))+
  geom_text(aes(x = Team,
                y = Matches_Won + 0.5,
                label = round(Matches_Won, 2)))+
  coord_flip()

plot1
```



```
library(ggplot2)
plot2<-ggplot(data=toss_won_by_a_team, aes(x=Team, y=Toss_Won,color=Team,fill=Team,labels=Toss_Won)) +
  geom_col()+
  ggtitle("Teams that have been lucky in IPL 2013")+
  xlab("Teams") + ylab("Number of Toss Won") +
  theme_bw() + theme(legend.position = "none") +
  theme(plot.title = element_text(hjust = 0.2))+
  geom_text(aes(x = Team,
                y = Toss_Won + 0.5,
                label = round(Toss_Won, 2)))+
  coord_flip()

plot2
```

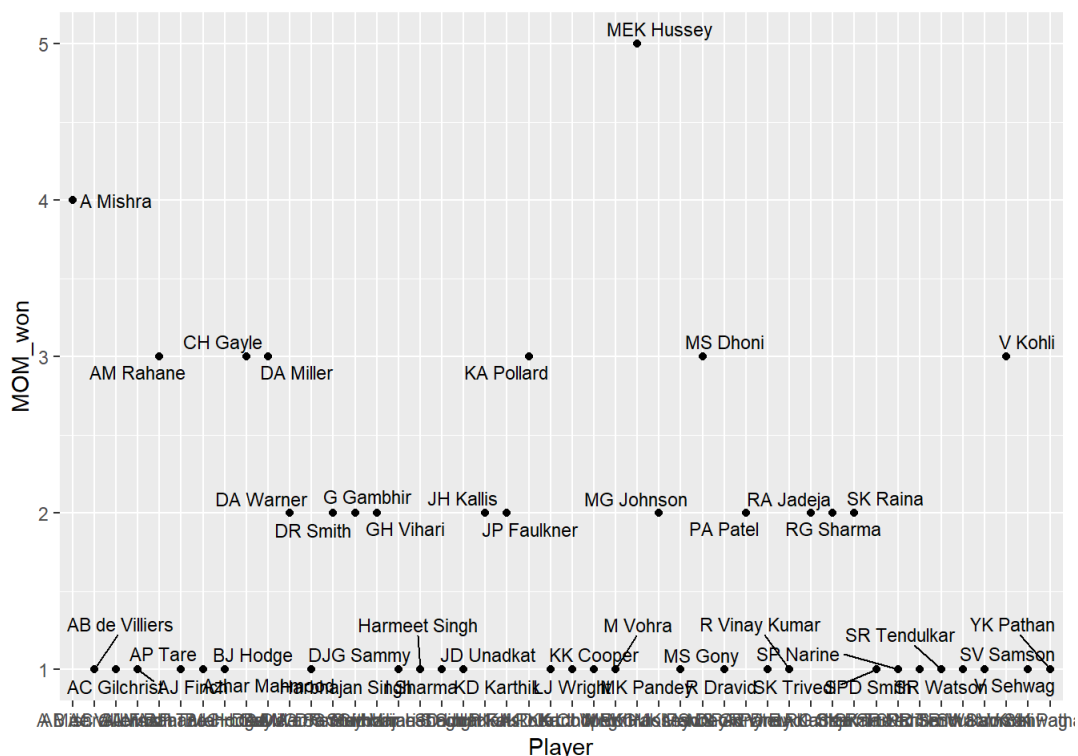




```
library(ggplot2)
library(ggrepel)

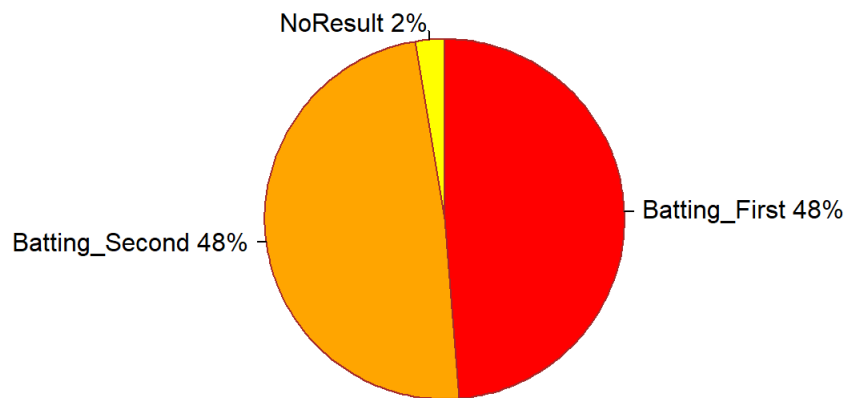
plot3<-ggplot(Man_of_the_match_won_by_a_player, aes(x=Player, y=MOM_won)) +
  geom_point()+
  geom_text_repel(aes(Player, MOM_won, label = Player), size = 3)

plot3
```



```
piec<-as.numeric(Batting_First_Second[1,])
lbls1 <- c("Batting_First", "Batting_Second", "NoResult")
pct <- floor((piec/sum(piec)*100))
lbls1 <- paste(lbls1, pct) # add percents to labels
lbls1 <- paste(lbls1,"%",sep="") # ad % to labels
plot4<-pie(piec,
  labels=lbls1,
  main="Number of Matches won Batting First and Second",
  col=c("red", "orange", "yellow"),
  border="brown",
  clockwise=TRUE
)
```

## Number of Matches won Batting First and Second



```
plot4
```

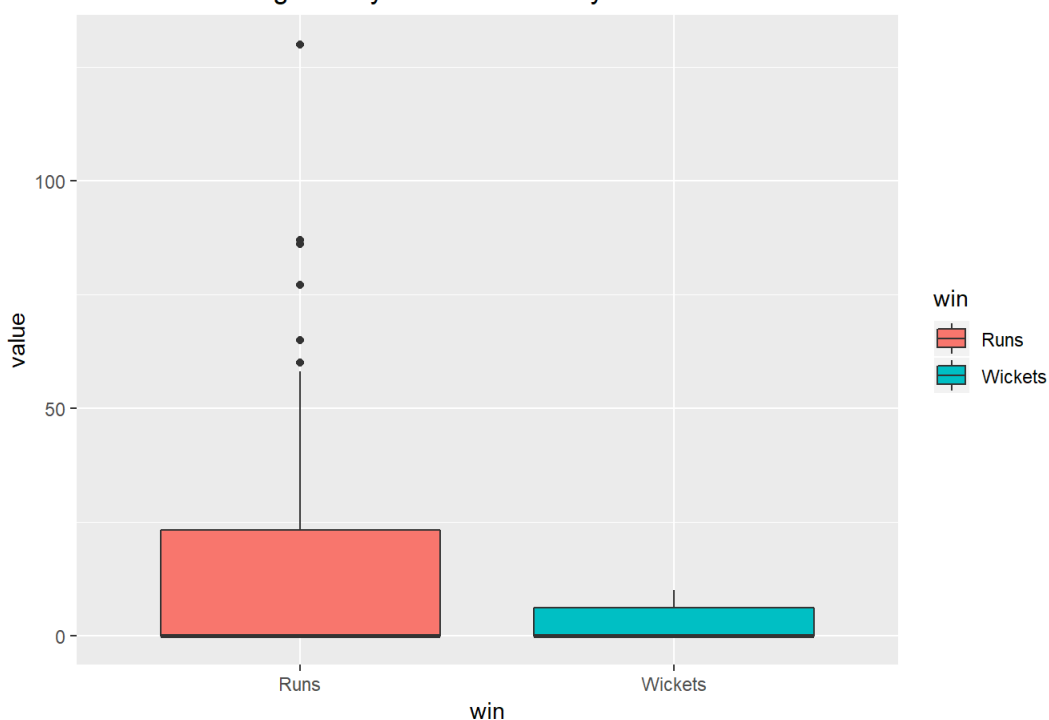
```
## NULL
```

```
a = data.frame(win="Runs", value = dataset_2013$win_by_runs)
b = data.frame(win = "Wickets", value = dataset_2013$win_by_wickets)
plot.data = rbind(a,b)

plot5<-ggplot(plot.data, aes(x=win, y=value, fill=win)) +
  geom_boxplot()+
  ggtitle("Box Plot Showing Win by Runs and Win by Wickets Statistics in IPL 2013")

plot5
```

Box Plot Showing Win by Runs and Win by Wickets Statistics in IPL 2013



```
summary(dataset_2013$win_by_runs)
```

```
##      Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##      0.00   0.00   0.00   16.33   23.25   130.00
```

```
summary(dataset_2013$win_by_wickets)
```

```
##      Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##      0.000   0.000   0.000   2.987   6.000   10.000
```

```
#Inferences from all seasons of IPL.
```

```
#1. Most consistent Team in the history of IPL
```

```
most_consistent_team<- aggregate(data.frame(Matches_Won = dataset$winner), list(Team = dataset$winner), length)
most_match<-which.max(most_consistent_team$Matches_Won)
Team<-as.data.frame(most_consistent_team[9,1])
colnames(Team)[1]<-"Most_Consistent_Team"
most_consistent_team<-most_consistent_team[-1,]
most_consistent_team<-most_consistent_team[rev(order(most_consistent_team$Matches_Won)),]
most_consistent_team
```

```
##              Team Matches_Won
## 9      Mumbai Indians         92
## 2      Chennai Super Kings      79
## 8      Kolkata Knight Riders     77
## 14     Royal Challengers Bangalore 73
## 6      Kings XI Punjab          70
## 11     Rajasthan Royals         63
## 4      Delhi Daredevils         62
## 15     Sunrisers Hyderabad      42
## 3      Deccan Chargers          29
## 5      Gujarat Lions           13
## 10     Pune Warriors           12
## 12     Rising Pune Supergiant     10
## 7      Kochi Tuskers Kerala       6
## 13     Rising Pune Supergiants     5
```

```
#2. Most consistent Player in the history of IPL
```

```
most_consistent_player<- aggregate(data.frame(MOM_Won = dataset$player_of_match), list(Player = dataset$player_of_match), length)
most_mom<-which.max(most_consistent_player$MOM_Won)
Player<-as.data.frame(most_consistent_player[33,1])
colnames(Player)[1]<-"Most_Consistent_Player"
most_consistent_player<-most_consistent_player[-1,]
most_consistent_player<-most_consistent_player[rev(order(most_consistent_player$MOM_Won)),]
most_consistent_player
```

```
##              Player MOM_Won
## 33      CH Gayle         18
## 199     YK Pathan        16
## 40      DA Warner        15
## 10      AB de Villiers    15
## 173     SK Raina         14
## 151     RG Sharma        14
## 124     MS Dhoni         13
## 53      G Gambhir        13
## 108     MEK Hussey        12
## 19      AM Rahane        12
## 194     V Sehwag         11
## 193     V Kohli          11
## 49      DR Smith         11
## 184     SR Watson         10
## 76      JH Kallis         10
## 170     SE Marsh          9
## 80      KA Pollard        9
## 4       A Mishra         9
## 183     SR Tendulkar      8
## 156     RV Uthappa        7
## 147     RA Jadeja         7
```

## 22	AT Rayudu	7
## 12	AC Gilchrist	7
## 192	UT Yadav	6
## 181	SP Narine	6
## 101	M Vijay	6
## 59	Harbhajan Singh	6
## 30	BJ Hodge	6
## 16	AD Russell	6
## 5	A Nehra	6
## 201	Yuvraj Singh	5
## 176	SL Malinga	5
## 169	SC Ganguly	5
## 166	Sandeep Sharma	5
## 81	KC Sangakkara	5
## 79	JP Faulkner	5
## 58	GJ Maxwell	5
## 50	DW Steyn	5
## 48	DPMD Jayawardene	5
## 28	BB McCullum	5
## 24	B Kumar	5
## 17	AJ Finch	5
## 182	SPD Smith	4
## 175	SK Warne	4
## 134	PA Patel	4
## 129	NM Coulter-Nile	4
## 115	ML Hayden	4
## 113	MK Pandey	4
## 83	KH Pandya	4
## 82	KD Karthik	4
## 78	JP Duminy	4
## 73	JD Unadkat	4
## 21	AR Patel	4
## 197	WP Saha	3
## 187	SV Samson	3
## 146	R Vinay Kumar	3
## 137	PP Chawla	3
## 114	MK Tiwary	3
## 105	Mandeep Singh	3
## 102	M Vohra	3
## 96	LRPL Taylor	3
## 94	LMP Simmons	3
## 91	L Balaji	3
## 88	KP Pietersen	3
## 85	KK Nair	3
## 39	DA Miller	3
## 35	CJ Anderson	3
## 27	BA Stokes	3
## 7	A Symonds	3
## 3	A Kumble	3
## 186	ST Jayasuriya	2
## 185	SS Iyer	2
## 179	Sohail Tanvir	2
## 178	SM Pollock	2
## 174	SK Trivedi	2
## 171	Shakib Al Hasan	2
## 160	S Dhawan	2
## 154	RR Pant	2
## 149	Rashid Khan	2
## 145	R Sharma	2
## 143	R Dravid	2
## 139	PV Tambe	2
## 135	PC Valthaty	2
## 132	P Negi	2
## 131	P Kumar	2
## 128	N Rana	2
## 127	MV Boucher	2
## 121	MP Stoinis	2
## 117	MM Sharma	2
## 116	MM Patel	2
## 112	MJ McClenaghan	2
## 110	MG Johnson	2
## 106	MC Henriques	2
## 100	M Ntini	2

## 99	M Muralitharan	2
## 98	M Morkel	2
## 86	KM Jadhav	2
## 70	JA Morkel	2
## 67	Iqbal Abdulla	2
## 66	IK Pathan	2
## 65	I Sharma	2
## 63	HM Amla	2
## 62	HH Pandya	2
## 60	Harmeet Singh	2
## 56	GH Vihari	2
## 54	GC Smith	2
## 52	F du Plessis	2
## 44	DJ Hussey	2
## 42	DJ Bravo	2
## 41	DE Bollinger	2
## 34	CH Morris	2
## 32	CA Lynn	2
## 31	BW Hilfenhaus	2
## 25	B Lee	2
## 23	Azhar Mahmood	2
## 18	AJ Tye	2
## 11	AB Dinda	2
## 202	Z Khan	1
## 200	YS Chahal	1
## 198	WPUJC Vaas	1
## 196	Washington Sundar	1
## 195	VR Aaron	1
## 191	Umar Gul	1
## 190	TM Dilshan	1
## 189	TL Suman	1
## 188	TA Boult	1
## 180	SP Goswami	1
## 177	SM Katich	1
## 172	Shoaib Akhtar	1
## 168	SB Wagh	1
## 167	SB Jakati	1
## 165	SA Yadav	1
## 164	SA Asnodkar	1
## 163	S Sreesanth	1
## 162	S Sohal	1
## 161	S Nadeem	1
## 159	S Badrinath	1
## 158	S Aravind	1
## 157	S Anirudha	1
## 155	RS Bopara	1
## 153	RP Singh	1
## 152	RJ Harris	1
## 150	RE Levi	1
## 148	RA Tripathi	1
## 144	R McLaren	1
## 142	R Bhatia	1
## 141	R Ashwin	1
## 140	Q de Kock	1
## 138	PP Ojha	1
## 136	PD Collingwood	1
## 133	P Parameswaran	1
## 130	NV Ojha	1
## 126	Mustafizur Rahman	1
## 125	MS Gony	1
## 123	MS Bisla	1
## 122	MR Marsh	1
## 120	Mohammed Siraj	1
## 119	Mohammed Shami	1
## 118	MN Samuels	1
## 111	MJ Lumb	1
## 109	MF Maharooof	1
## 107	MD Mishra	1
## 104	MA Starc	1
## 103	MA Agarwal	1
## 97	M Kartik	1
## 95	LR Shukla	1
## 93	TT Wright	1

```
## 93      LU Wright      1
## 92      LH Ferguson    1
## 90      KV Sharma      1
## 89      KS Williamson  1
## 87      KMDN Kulasekara 1
## 84      KK Cooper      1
## 77      JJ Bumrah      1
## 75      JEC Franklin   1
## 74      JDP Oram       1
## 72      JD Ryder       1
## 71      JC Buttler     1
## 69      J Theron       1
## 68      J Botha        1
## 64      HV Patel       1
## 61      HH Gibbs       1
## 57      GJ Bailey      1
## 55      GD McGrath     1
## 51      EJG Morgan     1
## 47      DP Nannes      1
## 46      DL Vettori     1
## 45      DJG Sammy      1
## 43      DJ Hooda       1
## 38      CRD Fernando   1
## 37      CR Brathwaite  1
## 36      CL White       1
## 29      BCJ Cutting    1
## 26      BA Bhatt       1
## 20      AP Tare        1
## 15      AD Mathews     1
## 14      AD Mascarenhas 1
## 13      AC Voges       1
## 9       AA Jhunjunwala 1
## 8       A Zampa        1
## 6       A Singh       1
## 2       A Chandila     1
```

*#3. AVERAGE WINNING RUNS in all the seasons of IPL*

```
avg_winning_runs<-mean(dataset$win_by_runs)
avg_winning_runs<-round(avg_winning_runs)
avg_winning_runs
```

```
## [1] 14
```

*#4. AVERAGE WINNING WICKETS in all the seasons of IPL*

```
avg_winning_wkts<-mean(dataset$win_by_wickets)
avg_winning_wkts<-round(avg_winning_wkts)
avg_winning_wkts
```

```
## [1] 3
```

*#5. Number of normal,tie and no result matches in history of IPL*

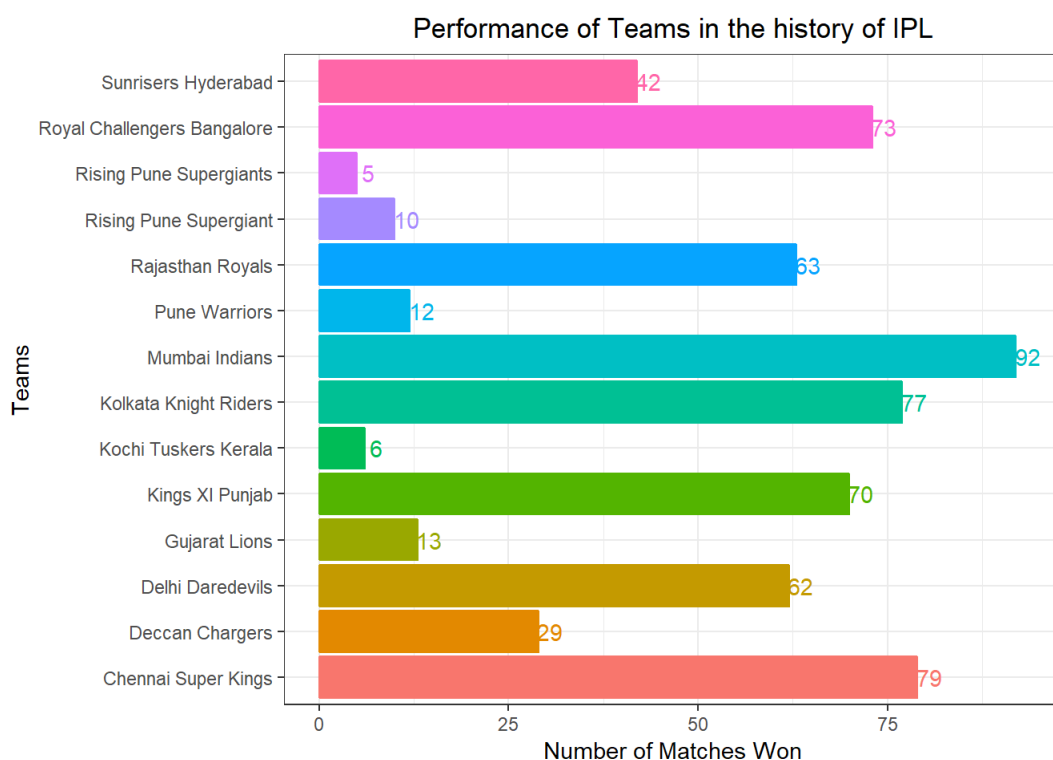
```
Normal_and_tie_and_noresult<- aggregate(data.frame(Number_of_matches = dataset$result), list(Result = dataset$result), length)
Normal_and_tie_and_noresult
```

```
##   Result Number_of_matches
## 1      1                626
## 2      2                 7
## 3      3                 3
```

```
#Visualisation for IPL History.
```

```
library(ggplot2)
plot6<-ggplot(data=most_consistent_team, aes(x=Team, y=Matches_Won,color=Team,fill=Team,labels=Matches_Won))
+
  geom_col()+
  ggtitle("Performance of Teams in the history of IPL")+
  xlab("Teams") + ylab("Number of Matches Won") +
  theme_bw() + theme(legend.position = "none") +
  theme(plot.title = element_text(hjust = 0.5))+
  geom_text(aes(x = Team,
                y = Matches_Won + 1.5,
                label = round(Matches_Won, 2)))+
  coord_flip()

plot6
```

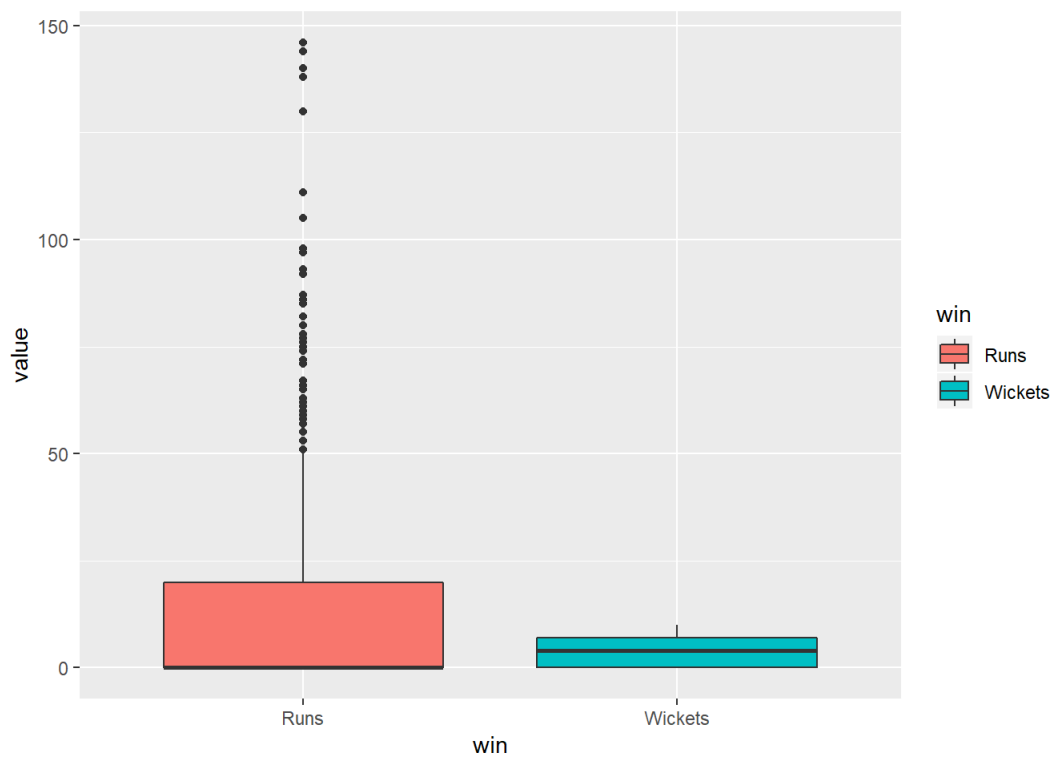


```
library(ggplot2)
library(ggrepel)
plot7<-ggplot(most_consistent_player, aes(x=Player, y=MOM_Won)) +
  geom_point()+
  geom_text_repel(aes(Player, MOM_Won, label = Player), size = 3)

plot7
```







```
summary(dataset$win_by_runs)
```

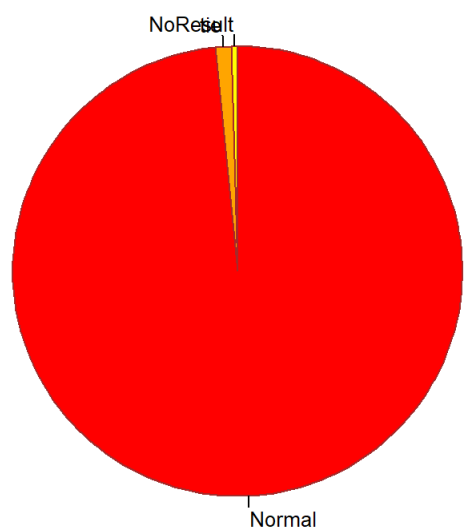
```
##      Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##      0.00   0.00   0.00   13.68  20.00  146.00
```

```
summary(dataset$win_by_wickets)
```

```
##      Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##      0.000   0.000   4.000   3.373   7.000  10.000
```

```
piec1<-as.numeric(unlist(Normal_and_tie_and_noresult[1:3,2]))
lbls <- c("Normal", "tie", "NoResult")
plot9<-pie(piec1,
  labels=lbls,
  main="Number of Normal/tie/noresult matches in the history of IPL",
  col=c("red", "orange", "yellow"),
  border="brown",
  clockwise=TRUE,
  radius = 1,
  cex=0.8
)
```

Number of Normal/tie/noresult matches in the history of IPL



plot9

## NULL