

## Task-5.R

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2021-05-17

*#OBJECTIVE:*

*# I) To find out most successful teams and players contributing to win or loss*

*# II) Suggest teams, players and companies who should endorse for its products*

*#DATA DESCRIPTION: The following report uses the dataset 'Matches' and 'Delivery' to make the analysis*

**library(readxl)**

**Mat= read.csv("C://Users//Srikar//Desktop//Study stuff//Internship//Grips Foundation//Task 5//Indian Premier League//Matches.csv")**

**head(Mat)** *#Viewing the first 6 rows of the dataset*

##	id	season	city	date	team1	
## 1	1	2017	Hyderabad	2017-04-05	Sunrisers Hyderabad	
## 2	2	2017	Pune	2017-04-06	Mumbai Indians	
## 3	3	2017	Rajkot	2017-04-07	Gujarat Lions	
## 4	4	2017	Indore	2017-04-08	Rising Pune Supergiant	
## 5	5	2017	Bangalore	2017-04-08	Royal Challengers Bangalore	
## 6	6	2017	Hyderabad	2017-04-09	Gujarat Lions	
##			team2		toss_winner	toss_decision
## 1			Royal Challengers Bangalore	Royal Challengers Bangalore	field	
## 2			Rising Pune Supergiant	Rising Pune Supergiant	field	
## 3			Kolkata Knight Riders	Kolkata Knight Riders	field	
## 4			Kings XI Punjab	Kings XI Punjab	field	
## 5			Delhi Daredevils	Royal Challengers Bangalore	bat	
## 6			Sunrisers Hyderabad	Sunrisers Hyderabad	field	
##	dl_applied		winner	win_by_runs	win_by_wickets	
## 1	0		Sunrisers Hyderabad	35	0	
## 2	0		Rising Pune Supergiant	0	7	

```
## 3      0      Kolkata Knight Riders      0      10
## 4      0      Kings XI Punjab      0      6
## 5      0 Royal Challengers Bangalore      15      0
## 6      0      Sunrisers Hyderabad      0      9
## player_of_match      venue      umpire1
## 1      Yuvraj Singh Rajiv Gandhi International Stadium, Uppal      AY Dandekar
## 2      SPD Smith      Maharashtra Cricket Association Stadium A Nand Kishore
## 3      CA Lynn      Saurashtra Cricket Association Stadium      Nitin Menon
## 4      GJ Maxwell      Holkar Cricket Stadium      AK Chaudhary
## 5      KM Jadhav      M Chinnaswamy Stadium
## 6      Rashid Khan Rajiv Gandhi International Stadium, Uppal      A Deshmukh
##      umpire2 umpire3
## 1      NJ Llong
## 2      S Ravi
## 3      CK Nandan
## 4 C Shamshuddin
## 5
## 6      NJ Llong
```

*#The dataset mathces contains the following variables*

**colnames**(Mat)

```
## [1] "id"      "season"   "city"     "date"
## [5] "team1"   "team2"    "toss_winner" "toss_decision"
## [9] "result"   "dl_applied" "winner"    "win_by_runs"
## [13] "win_by_wickets" "player_of_match" "venue"     "umpire1"
## [17] "umpire2"   "umpire3"
```

**length**(Mat\$id)

```
## [1] 756
```

*#The dataset contains 756 rows and 18 columns*

*#The dataset contains the following types of data*

**str**(Mat)

```
## 'data.frame': 756 obs. of 18 variables:
## $ id : int 1 2 3 4 5 6 7 8 9 10 ...
## $ season : int 2017 2017 2017 2017 2017 2017 2017 2017 2017 2017
...
## $ city : Factor w/ 33 levels "", "Abu Dhabi",...: 16 28 30 17 4
16 25 17 28 25 ...
## $ date : Factor w/ 546 levels "01/04/19", "01/05/18",...: 471 472
473 474 474 475 475 476 477 478 ...
## $ team1 : Factor w/ 15 levels "Chennai Super Kings",...: 15 9 5
12 14 5 8 14 4 15 ...
## $ team2 : Factor w/ 15 levels "Chennai Super Kings",...: 14 12 8
6 4 15 9 6 12 9 ...
## $ toss_winner : Factor w/ 15 levels "Chennai Super Kings",...: 14 12 8
6 14 15 9 14 12 9 ...
```

```
## $ toss_decision : Factor w/ 2 levels "bat","field": 2 2 2 2 1 2 2 1 2 2
...
## $ result : Factor w/ 3 levels "no result","normal",...: 2 2 2 2 2
2 2 2 2 2 ...
## $ dl_applied : int 0 0 0 0 0 0 0 0 0 0 ...
## $ winner : Factor w/ 16 levels "", "Chennai Super Kings",...: 16 13
9 7 15 16 10 7 5 10 ...
## $ win_by_runs : int 35 0 0 0 15 0 0 0 97 0 ...
## $ win_by_wickets : int 0 7 10 6 0 9 4 8 0 4 ...
## $ player_of_match: Factor w/ 227 levels "", "A Chandila",...: 226 205 36 63
101 168 146 22 210 87 ...
## $ venue : Factor w/ 41 levels "ACA-VDCA Stadium",...: 29 22 32 14
18 29 41 14 22 41 ...
## $ umpire1 : Factor w/ 62 levels "", "A Deshmukh",...: 12 3 39 5 1 2
39 5 12 39 ...
## $ umpire2 : Factor w/ 66 levels "", "A Deshmukh",...: 40 51 19 16 1
40 19 16 51 19 ...
## $ umpire3 : Factor w/ 26 levels "", "A Nanda Kishore",...: 1 1 1 1 1
1 1 1 1 1 ...
```

*#The dataset contains integers and Factor values*

*#Summary Statistics of the dataset, 'Matches'*

**summary(Mat)**

```
##      id      season      city      date
## Min.   : 1.0   Min.   :2008   Mumbai   :101   04/05/19: 2
## 1st Qu.: 189.8 1st Qu.:2011   Kolkata   : 77   05/05/18: 2
## Median : 378.5 Median :2013   Delhi     : 74   05/05/19: 2
## Mean   : 1792.2 Mean   :2013   Bangalore: 66   06/04/19: 2
## 3rd Qu.: 567.2 3rd Qu.:2016   Hyderabad: 64   06/05/18: 2
## Max.   :11415.0 Max.   :2019   Chennai   : 57   07/04/19: 2
##                                     (Other) :317   (Other) :744
##
##      team1      team2
## Mumbai Indians      :101   Kolkata Knight Riders      : 95
## Kings XI Punjab      : 91   Royal Challengers Bangalore: 95
## Chennai Super Kings   : 89   Delhi Daredevils      : 89
## Royal Challengers Bangalore: 85   Mumbai Indians      : 86
## Kolkata Knight Riders   : 83   Kings XI Punjab      : 85
## Delhi Daredevils       : 72   Rajasthan Royals     : 80
## (Other)                :235   (Other)              :226
##
##      toss_winner toss_decision      result
## Mumbai Indians      : 98   bat :293   no result: 4
## Kolkata Knight Riders : 92   field:463   normal :743
## Chennai Super Kings   : 89           tie      : 9
## Kings XI Punjab      : 81
## Royal Challengers Bangalore: 81
## Delhi Daredevils     : 80
## (Other)              :235
##      dl_applied      winner      win_by_runs
```

```

## Min. :0.00000 Mumbai Indians :109 Min. : 0.00
## 1st Qu.:0.00000 Chennai Super Kings :100 1st Qu.: 0.00
## Median :0.00000 Kolkata Knight Riders : 92 Median : 0.00
## Mean :0.02513 Royal Challengers Bangalore: 84 Mean : 13.28
## 3rd Qu.:0.00000 Kings XI Punjab : 82 3rd Qu.: 19.00
## Max. :1.00000 Rajasthan Royals : 75 Max. :146.00
## (Other) :214
## win_by_wickets player_of_match
## Min. : 0.000 CH Gayle : 21
## 1st Qu.: 0.000 AB de Villiers: 20
## Median : 4.000 DA Warner : 17
## Mean : 3.351 MS Dhoni : 17
## 3rd Qu.: 6.000 RG Sharma : 17
## Max. :10.000 YK Pathan : 16
## (Other) :648
## venue umpire1
## Eden Gardens : 77 HDPK Dharmasena: 73
## M Chinnaswamy Stadium : 73 Asad Rauf : 51
## Wankhede Stadium : 73 S Ravi : 49
## Feroz Shah Kotla : 67 AK Chaudhary : 43
## Rajiv Gandhi International Stadium, Uppal: 56 Aleem Dar : 38
## MA Chidambaram Stadium, Chepauk : 49 BF Bowden : 37
## (Other) :361 (Other) :465
## umpire2 umpire3
## C Shamshuddin: 57 :637
## S Ravi : 57 C Shamshuddin : 10
## SJA Taufel : 54 Nitin Menon : 10
## RJ Tucker : 38 O Nandan : 10
## CK Nandan : 36 Anil Chaudhary: 9
## RB Tiffin : 30 S Ravi : 8
## (Other) :484 (Other) : 72

```

## #ANALYSIS:

*#1) Finding the correlation between the variables in the dataset*

*#Keeping the variables that*

```

Mat1=Mat[,sapply(Mat,class)!= "factor"]
head(Mat1)

```

```

## id season dl_applied win_by_runs win_by_wickets
## 1 1 2017 0 35 0
## 2 2 2017 0 0 7
## 3 3 2017 0 0 10
## 4 4 2017 0 0 6
## 5 5 2017 0 15 0
## 6 6 2017 0 0 9

```

```

corr=cor(Mat1)
corr

##              id          season  dl_applied win_by_runs
win_by_wickets
## id          1.00000000  0.668303943 -0.011658404 -0.03940292 -
0.012239382
## season      0.66830394  1.000000000 -0.001116259 -0.03752882 -
0.009379437
## dl_applied  -0.01165840 -0.001116259  1.000000000 -0.01634899 -
0.011631323
## win_by_runs -0.03940292 -0.037528815 -0.016348989  1.000000000 -
0.560420205
## win_by_wickets -0.01223938 -0.009379437 -0.011631323 -0.56042020
1.000000000

corrplot::corrplot(corr,method=c('shade'))

#We observe negative and positive correlations in the data.

#Large Correlations: Large corelations can be observed between the following variables:

#i) ID and Season, wins by runs and wins by wickets
#Ii) Rest are small and medium medium correlations

#A) Finding the top 5 teams

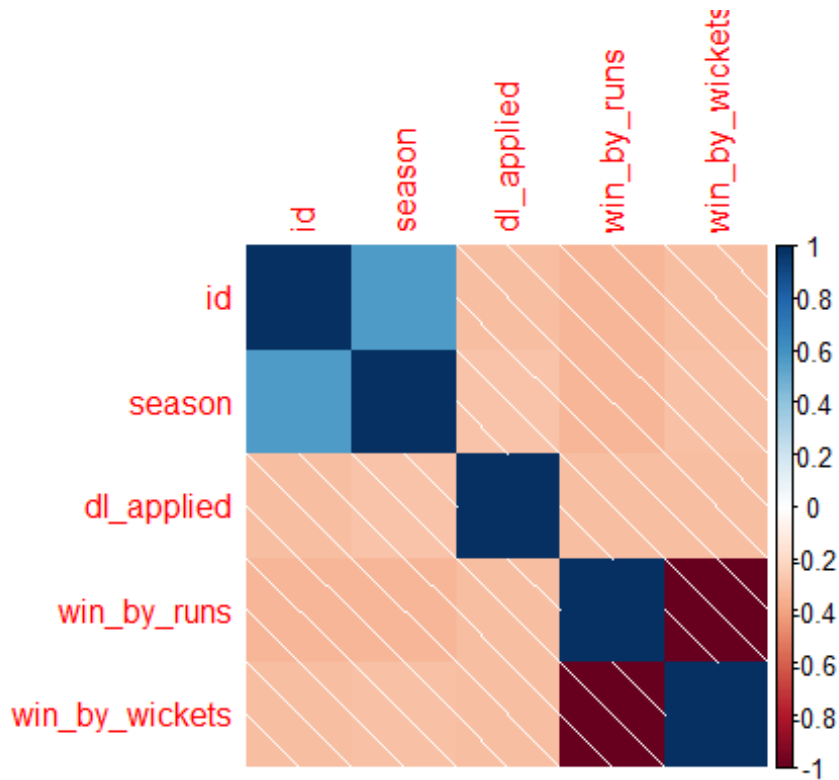
table(Mat$winner)

##
##              Chennai Super Kings
##              4              100
##      Deccan Chargers      Delhi Capitals
##              29              10
##      Delhi Daredevils      Gujarat Lions
##              67              13
##      Kings XI Punjab      Kochi Tuskers Kerala
##              82              6
##      Kolkata Knight Riders      Mumbai Indians
##              92              109
##      Pune Warriors      Rajasthan Royals
##              12              75
##      Rising Pune Supergiant      Rising Pune Supergiants
##              10              5
##      Royal Challengers Bangalore      Sunrisers Hyderabad
##              84              58

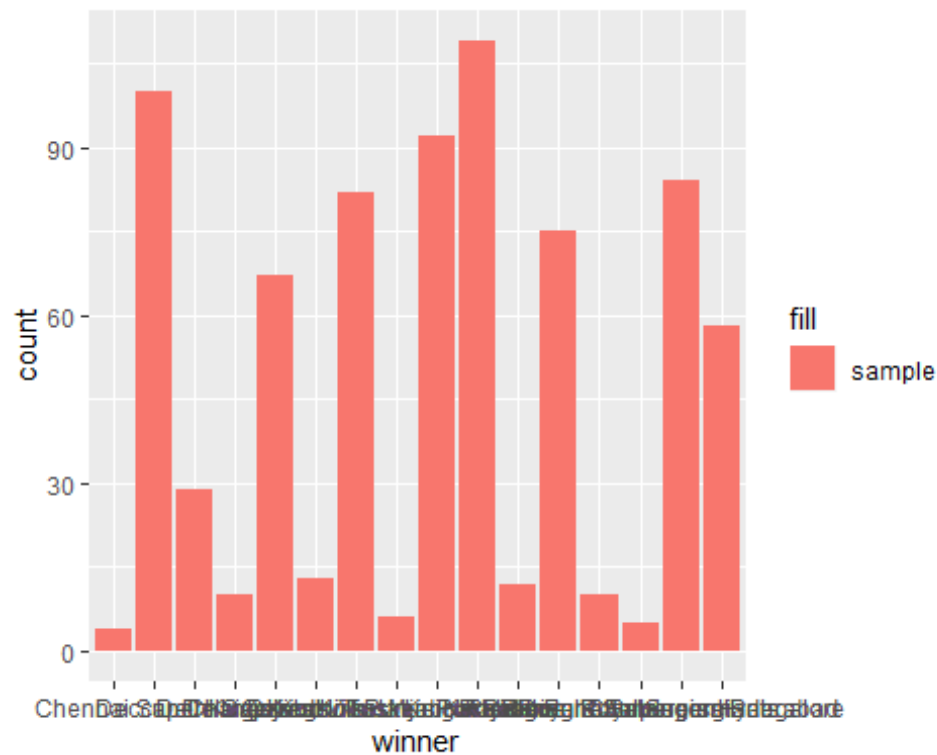
library(ggplot2)

```

```
## Warning: package 'ggplot2' was built under R version 3.6.3
## Registered S3 methods overwritten by 'tibble':
##   method      from
##   format.tbl  pillar
##   print.tbl   pillar
```



```
ggplot(Mat, aes(winner, fill='sample')) + geom_bar()
```



# The top 5 teams who have won most games since 2007 are:

#i) Mumbai Indians, Chennai Super Kings, Kolkata Knight Riders, Royal Challengers Bangalore and Kings XI Punjab

#B) Finding the most successful players based on 'Man of the Match'

MOM=table(Mat\$player\_of\_match)

MOM

```
##
##              A Chandila              A Joseph              A Kumble
##              4              1              1              3
##              A Mishra              A Nehra              A Singh              A Symonds
##              11              6              1              3
##              A Zampa              AA Jhunjunwala              AB de Villiers              AB Dinda
##              1              1              20              2
##              AC Gilchrist              AC Voges              AD Mascarenhas              AD Mathews
##              7              1              1              1
##              AD Russell              AJ Finch              AJ Tye              AM Rahane
##              11              5              2              12
##              AP Tare              AR Patel              AS Rajpoot              AS Yadav
##              1              4              2              2
##              AT Rayudu              Azhar Mahmood              B Kumar              B Lee
##              9              2              5              2
##              B Stanlake              BA Bhatt              BA Stokes              BB McCullum
```

##	1	1	3	5
##	BCJ Cutting	BJ Hodge	BW Hilfenhaus	CA Lynn
##	1	6	2	4
##	CH Gayle	CH Morris	CJ Anderson	CL White
##	21	2	3	1
##	CR Brathwaite	CRD Fernando	DA Miller	DA Warner
##	1	1	3	17
##	DE Bollinger	DJ Bravo	DJ Hooda	DJ Hussey
##	2	3	1	2
##	DJG Sammy	DL Chahar	DL Vettori	DP Nannes
##	1	1	1	1
##	DPMD Jayawardene	DR Smith	DW Steyn	EJG Morgan
##	5	11	5	1
##	F du Plessis	G Gambhir	GC Smith	GD McGrath
##	4	13	2	1
##	GH Vihari	GJ Bailey	GJ Maxwell	H Gurney
##	2	1	5	1
##	Harbhajan Singh	Harmeet Singh	HH Gibbs	HH Pandya
##	8	2	1	6
##	HM Amla	HV Patel	I Sharma	IK Pathan
##	2	2	2	2
##	Imran Tahir	Iqbal Abdulla	Ishan Kishan	J Archer
##	1	2	1	1
##	J Bairstow	J Botha	J Theron	JA Morkel
##	2	1	1	2
##	JC Buttler	JD Ryder	JD Unadkat	JDP Oram
##	5	1	5	1
##	JEC Franklin	JH Kallis	JJ Bumrah	JJ Roy
##	1	10	5	1
##	JP Duminy	JP Faulkner	K Ahmed	K Paul
##	4	5	1	1
##	K Rabada	KA Pollard	KC Sangakkara	KD Karthik
##	1	10	5	4
##	KH Pandya	KK Cooper	KK Nair	KL Rahul
##	4	1	3	4
##	KM Jadhav	KMDN Kulasekara	KP Pietersen	KS Williamson
##	2	1	3	3
##	Kuldeep Yadav	KV Sharma	L Balaji	L Ngidi
##	1	1	3	1
##	LH Ferguson	LJ Wright	LMP Simmons	LR Shukla
##	1	1	3	1
##	LRPL Taylor	M Kartik	M Morkel	M Muralitharan
##	3	1	2	2
##	M Ntini	M Ur Rahman	M Vijay	M Vohra
##	2	1	6	3
##	MA Agarwal	MA Starc	Mandeep Singh	MC Henriques
##	2	1	3	2
##	MD Mishra	MEK Hussey	MF Maharooof	MG Johnson
##	1	12	1	2
##	MJ Lumb	MJ McClenaghan	MK Pandey	MK Tiwary



##	1	2	4	3
##	ML Hayden	MM Patel	MM Sharma	MN Samuels
##	4	2	2	1
##	Mohammed Shami	Mohammed Siraj	MP Stoinis	MR Marsh
##	1	1	2	1
##	MS Bisla	MS Dhoni	MS Gony	Mustafizur Rahman
##	1	17	1	1
##	MV Boucher	N Rana	NM Coulter-Nile	NV Ojha
##	2	4	4	1
##	P Kumar	P Negi	P Parameswaran	P Shaw
##	2	2	1	1
##	PA Patel	PC Valthaty	PD Collingwood	PP Chawla
##	5	2	1	3
##	PP Ojha	PV Tambe	Q de Kock	R Ashwin
##	1	2	1	2
##	R Bhatia	R Dravid	R McLaren	R Sharma
##	1	2	1	2
##	R Vinay Kumar	RA Jadeja	RA Tripathi	Rashid Khan
##	3	8	1	7
##	RE Levi	RG Sharma	RJ Harris	RP Singh
##	1	17	1	1
##	RR Pant	RS Bopara	RV Uthappa	S Anirudha
##	6	1	7	1
##	S Aravind	S Badrinath	S Curran	S Dhawan
##	1	1	1	6
##	S Gill	S Gopal	S Hetmyer	S Nadeem
##	1	2	1	1
##	S Sohal	S Sreesanth	SA Asnodkar	SA Yadav
##	1	1	1	1
##	Sandeep Sharma	SB Jakati	SB Wagh	SC Ganguly
##	5	1	1	5
##	SE Marsh	Shakib Al Hasan	Shoaib Akhtar	SK Raina
##	9	2	1	14
##	SK Trivedi	SK Warne	SL Malinga	SM Katich
##	2	4	6	1
##	SM Pollock	Sohail Tanvir	SP Goswami	SP Narine
##	2	2	1	9
##	SPD Smith	SR Tendulkar	SR Watson	SS Iyer
##	5	8	15	4
##	ST Jayasuriya	SV Samson	SW Billings	TA Boult
##	2	5	1	1
##	TG Southee	TL Suman	TM Dilshan	Umar Gul
##	1	1	1	1
##	UT Yadav	V Kohli	V Sehwag	VR Aaron
##	8	12	11	2
##	Washington Sundar	WP Saha	WPUJC Vaas	YK Pathan
##	1	3	1	16
##	YS Chahal	Yuvraj Singh	Z Khan	
##	1	5	1	

```

library(dplyr)

## Warning: package 'dplyr' was built under R version 3.6.3

##
## 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

MOM1=Mat %>%
  count(Mat$player_of_match)

MOM2=data.frame(MOM1)
MOM2

##   Mat.player_of_match  n
## 1
## 2      A Chandila  1
## 3      A Joseph  1
## 4      A Kumble  3
## 5      A Mishra 11
## 6      A Nehra  6
## 7      A Singh  1
## 8      A Symonds  3
## 9      A Zampa  1
## 10 AA Jhunjunwala  1
## 11 AB de Villiers 20
## 12 AB Dinda  2
## 13 AC Gilchrist  7
## 14 AC Voges  1
## 15 AD Mascarenhas  1
## 16 AD Mathews  1
## 17 AD Russell 11
## 18 AJ Finch  5
## 19 AJ Tye  2
## 20 AM Rahane 12
## 21 AP Tare  1
## 22 AR Patel  4
## 23 AS Rajpoot  2
## 24 AS Yadav  2
## 25 AT Rayudu  9
## 26 Azhar Mahmood  2
## 27 B Kumar  5
## 28 B Lee  2
## 29 B Stanlake  1

```

## 30	BA Bhatt	1
## 31	BA Stokes	3
## 32	BB McCullum	5
## 33	BCJ Cutting	1
## 34	BJ Hodge	6
## 35	BW Hilfenhaus	2
## 36	CA Lynn	4
## 37	CH Gayle	21
## 38	CH Morris	2
## 39	CJ Anderson	3
## 40	CL White	1
## 41	CR Brathwaite	1
## 42	CRD Fernando	1
## 43	DA Miller	3
## 44	DA Warner	17
## 45	DE Bollinger	2
## 46	DJ Bravo	3
## 47	DJ Hooda	1
## 48	DJ Hussey	2
## 49	DJG Sammy	1
## 50	DL Chahar	1
## 51	DL Vettori	1
## 52	DP Nannes	1
## 53	DPMD Jayawardene	5
## 54	DR Smith	11
## 55	DW Steyn	5
## 56	EJG Morgan	1
## 57	F du Plessis	4
## 58	G Gambhir	13
## 59	GC Smith	2
## 60	GD McGrath	1
## 61	GH Vihari	2
## 62	GJ Bailey	1
## 63	GJ Maxwell	5
## 64	H Gurney	1
## 65	Harbhajan Singh	8
## 66	Harmeet Singh	2
## 67	HH Gibbs	1
## 68	HH Pandya	6
## 69	HM Amla	2
## 70	HV Patel	2
## 71	I Sharma	2
## 72	IK Pathan	2
## 73	Imran Tahir	1
## 74	Iqbal Abdulla	2
## 75	Ishan Kishan	1
## 76	J Archer	1
## 77	J Bairstow	2
## 78	J Botha	1
## 79	J Theron	1

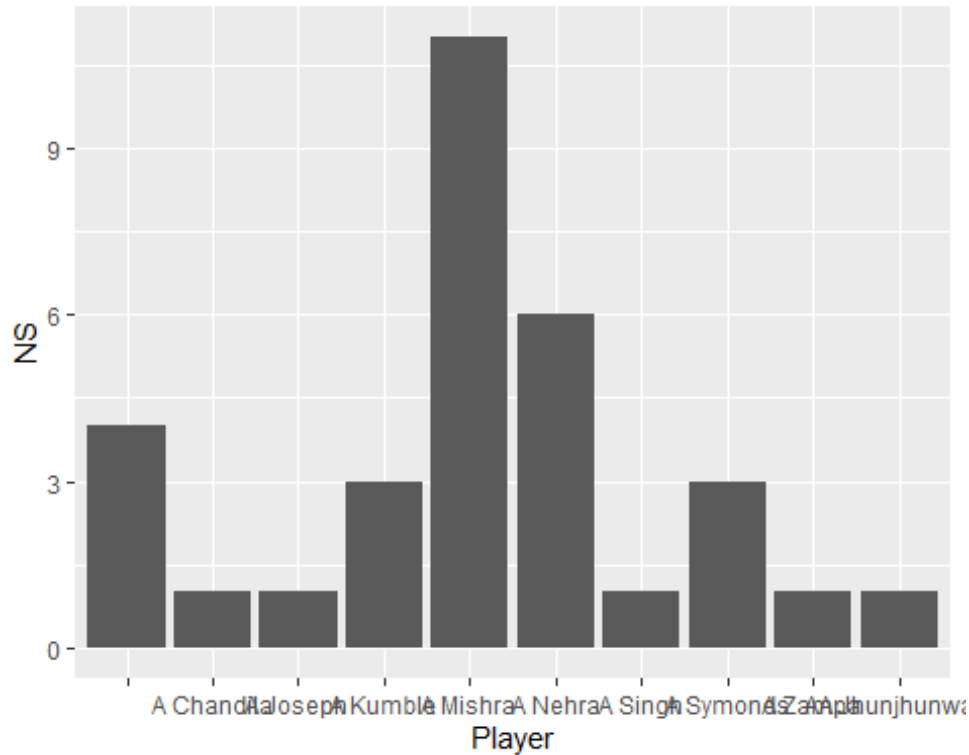
## 80	JA Morkel	2
## 81	JC Buttler	5
## 82	JD Ryder	1
## 83	JD Unadkat	5
## 84	JDP Oram	1
## 85	JEC Franklin	1
## 86	JH Kallis	10
## 87	JJ Bumrah	5
## 88	JJ Roy	1
## 89	JP Duminy	4
## 90	JP Faulkner	5
## 91	K Ahmed	1
## 92	K Paul	1
## 93	K Rabada	1
## 94	KA Pollard	10
## 95	KC Sangakkara	5
## 96	KD Karthik	4
## 97	KH Pandya	4
## 98	KK Cooper	1
## 99	KK Nair	3
## 100	KL Rahul	4
## 101	KM Jadhav	2
## 102	KMDN Kulasekara	1
## 103	KP Pietersen	3
## 104	KS Williamson	3
## 105	Kuldeep Yadav	1
## 106	KV Sharma	1
## 107	L Balaji	3
## 108	L Ngidi	1
## 109	LH Ferguson	1
## 110	LJ Wright	1
## 111	LMP Simmons	3
## 112	LR Shukla	1
## 113	LRPL Taylor	3
## 114	M Kartik	1
## 115	M Morkel	2
## 116	M Muralitharan	2
## 117	M Ntini	2
## 118	M Ur Rahman	1
## 119	M Vijay	6
## 120	M Vohra	3
## 121	MA Agarwal	2
## 122	MA Starc	1
## 123	Mandeep Singh	3
## 124	MC Henriques	2
## 125	MD Mishra	1
## 126	MEK Hussey	12
## 127	MF Maharooof	1
## 128	MG Johnson	2
## 129	MJ Lumb	1

## 130	MJ McClenaghan	2
## 131	MK Pandey	4
## 132	MK Tiwary	3
## 133	ML Hayden	4
## 134	MM Patel	2
## 135	MM Sharma	2
## 136	MN Samuels	1
## 137	Mohammed Shami	1
## 138	Mohammed Siraj	1
## 139	MP Stoinis	2
## 140	MR Marsh	1
## 141	MS Bisla	1
## 142	MS Dhoni	17
## 143	MS Gony	1
## 144	Mustafizur Rahman	1
## 145	MV Boucher	2
## 146	N Rana	4
## 147	NM Coulter-Nile	4
## 148	NV Ojha	1
## 149	P Kumar	2
## 150	P Negi	2
## 151	P Parameswaran	1
## 152	P Shaw	1
## 153	PA Patel	5
## 154	PC Valthaty	2
## 155	PD Collingwood	1
## 156	PP Chawla	3
## 157	PP Ojha	1
## 158	PV Tambe	2
## 159	Q de Kock	1
## 160	R Ashwin	2
## 161	R Bhatia	1
## 162	R Dravid	2
## 163	R McLaren	1
## 164	R Sharma	2
## 165	R Vinay Kumar	3
## 166	RA Jadeja	8
## 167	RA Tripathi	1
## 168	Rashid Khan	7
## 169	RE Levi	1
## 170	RG Sharma	17
## 171	RJ Harris	1
## 172	RP Singh	1
## 173	RR Pant	6
## 174	RS Bopara	1
## 175	RV Uthappa	7
## 176	S Anirudha	1
## 177	S Aravind	1
## 178	S Badrinath	1
## 179	S Curran	1

## 180	S Dhawan	6
## 181	S Gill	1
## 182	S Gopal	2
## 183	S Hetmyer	1
## 184	S Nadeem	1
## 185	S Sohal	1
## 186	S Sreesanth	1
## 187	SA Asnodkar	1
## 188	SA Yadav	1
## 189	Sandeep Sharma	5
## 190	SB Jakati	1
## 191	SB Wagh	1
## 192	SC Ganguly	5
## 193	SE Marsh	9
## 194	Shakib Al Hasan	2
## 195	Shoaib Akhtar	1
## 196	SK Raina	14
## 197	SK Trivedi	2
## 198	SK Warne	4
## 199	SL Malinga	6
## 200	SM Katich	1
## 201	SM Pollock	2
## 202	Sohail Tanvir	2
## 203	SP Goswami	1
## 204	SP Narine	9
## 205	SPD Smith	5
## 206	SR Tendulkar	8
## 207	SR Watson	15
## 208	SS Iyer	4
## 209	ST Jayasuriya	2
## 210	SV Samson	5
## 211	SW Billings	1
## 212	TA Boult	1
## 213	TG Southee	1
## 214	TL Suman	1
## 215	TM Dilshan	1
## 216	Umar Gul	1
## 217	UT Yadav	8
## 218	V Kohli	12
## 219	V Sehwag	11
## 220	VR Aaron	2
## 221	Washington Sundar	1
## 222	WP Saha	3
## 223	WPUJC Vaas	1
## 224	YK Pathan	16
## 225	YS Chahal	1
## 226	Yuvraj Singh	5
## 227	Z Khan	1

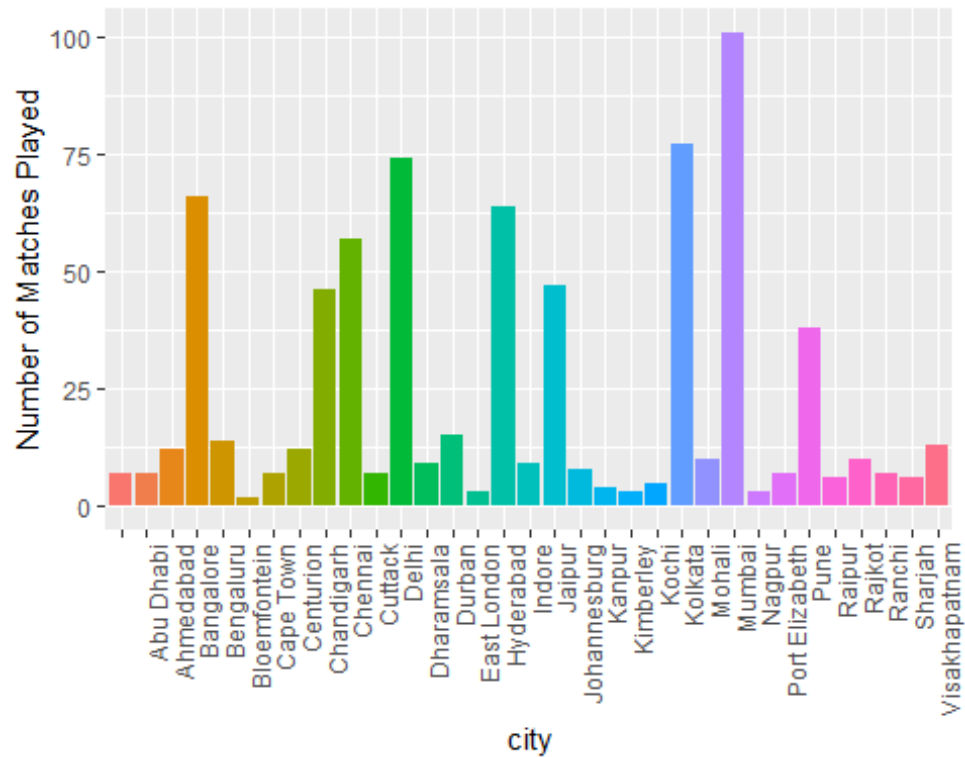
```
colnames(MOM2)=c("Player", "NS")
J=head(MOM2,10)

ggplot(J, aes(Player, NS))+geom_bar(stat='identity')
```



*#C) Finding the number of matches played in different cities*

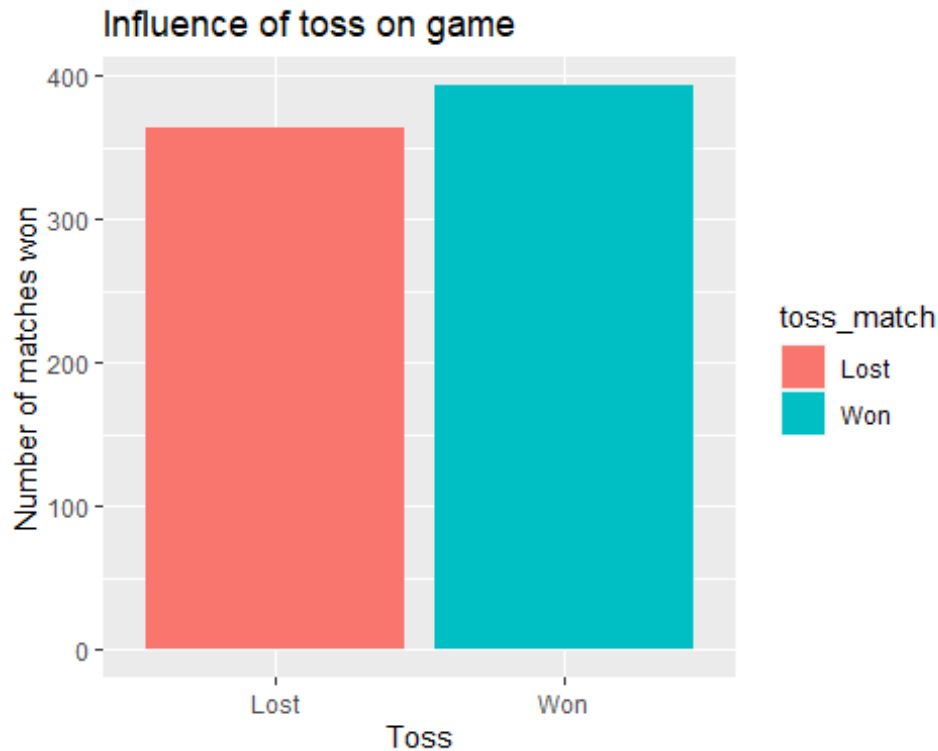
```
ggplot(Mat[which(!is.na(Mat$city)),], aes(city, fill= city, rm.na=T))
+geom_bar() +
  theme(axis.text.x = element_text(angle = 90, hjust = 1))+
  ylab("Number of Matches Played") +
  guides(fill=FALSE)
```



*#D) Finding if toss influences games*

```
Mat$toss_match=ifelse(as.character(Mat$toss_winner)==as.character(Mat$winner)
,"Won","Lost")
ggplot(Mat[which(!is.na(Mat$toss_match)),],aes(toss_match, fill =
toss_match))+
  geom_bar()+ xlab("Toss") +ylab("Number of matches won")+ ggtitle("Influence
of toss on game")
```

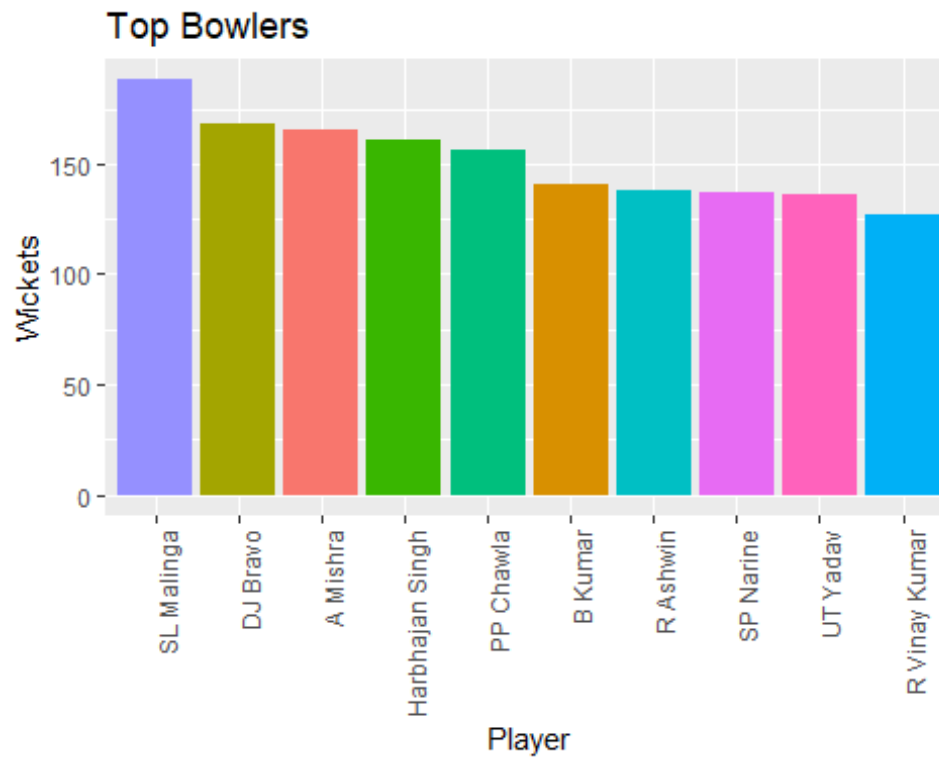




```
deliveries=read.csv("C://Users//Srikar//Desktop//Study
stuff//Internship//Grips Foundation//Task 5//Indian Premier
League//deliveries.csv")
```

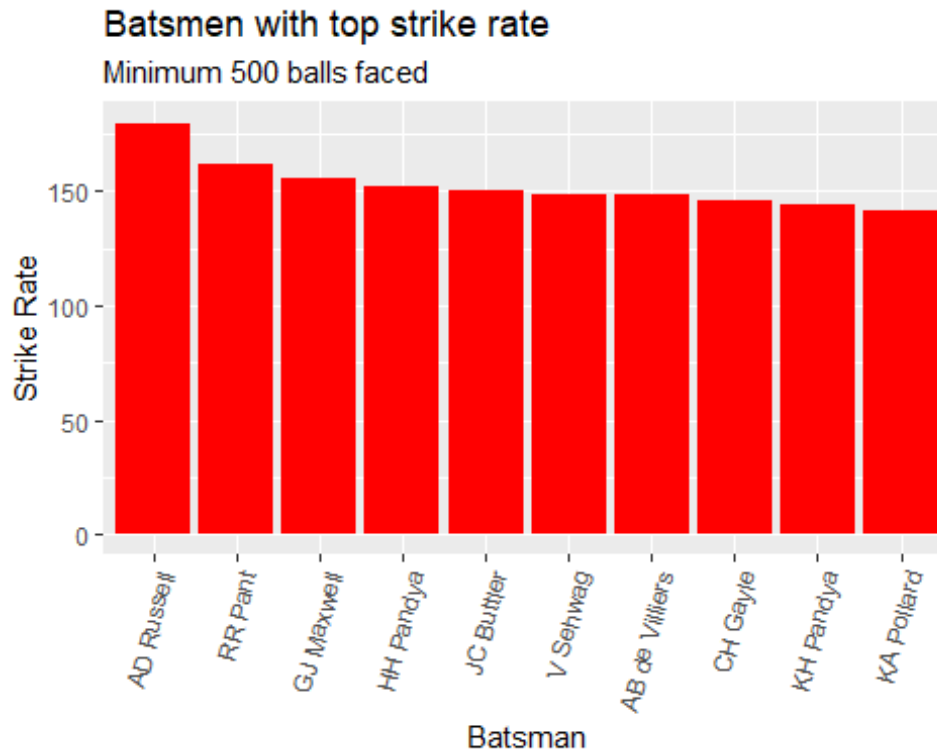
*#ii) Finding the top bowlers by the wickets taken out*

```
df=deliveries %>% group_by(bowler) %>% filter(player_dismissed!="") %>%
summarise(wickets= length(player_dismissed)) %>% top_n(n=10,wt=wickets)
df %>% ggplot(aes(reorder(bowler,-
wickets),wickets,fill=bowler))+geom_bar(stat = "identity") + ylab("Wickets")+
  theme(axis.text.x = element_text(angle = 90, hjust = 1))+ xlab("Player")+
  ggtitle("Top Bowlers")+ guides(fill=F)
```



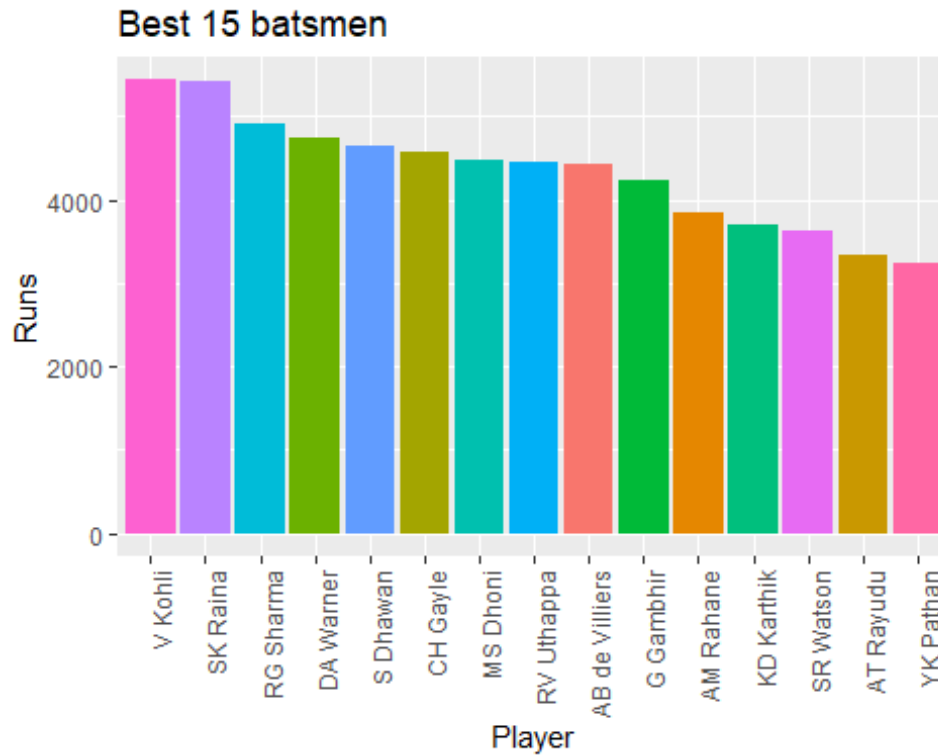
*#iii) finding the batsmen with top strike rate*

```
deliveries %>% group_by(batsman) %>% filter(length(total_runs)>500) %>%
summarise(strike_rate= mean(batsman_runs)*100) %>% top_n(n=10,wt=strike_rate)
%>%
  ggplot(aes(reorder(batsman,-strike_rate),strike_rate,fill=batsman))+
  geom_bar(stat="identity",fill='red')+ xlab("Batsman") + ylab("Strike Rate") +
  ggtitle("Batsmen with top strike rate",subtitle = "Minimum 500 balls
faced")+
  theme(axis.text.x = element_text(angle = 75, hjust = 1))
```



*#iv) Finding the best batsmen*

```
df1=deliveries %>% group_by(batsman)%>% summarise(runs=sum(batsman_runs)) %>%
  arrange(desc(runs)) %>%
  filter(runs > 3000)
df1 %>% ggplot(aes(reorder(batsman,-runs),runs,fill=batsman)) +geom_bar(stat
= "identity") +xlab("Batsman")+ ylab("Runs")+
  theme(axis.text.x = element_text(angle = 90, hjust = 1))+ xlab("Player")+
  ggtitle("Best 15 batsmen")+ guides(fill=F)
```



#### *#INTERPRETATION*

*# 1) The most successful teams are Chennai Super Kings, Mumbai Indians and Kolkata Knight Riders.*

*# 2) The most successful players are A.Mishra, A.Nehra and chandala are the best bowlers. The best batsmen include  
# V.Kohli, SK Raina and RG Sharma.*

*# 3) Factors contributing to win or loss are Tossing coin, city played and stadium played seem to have an effect on the games won.*

*# 4) The players and teams endorsed would be the best teams and players mentioned above,*