Problem Statement

Cricket is a religion in our country. It has become a craze after the advent of IPL. Over the years IPL has gone from just a game to a matter of pride for fans as well as owners. Every penny which goes into auctions, planning, training, marketing and broadcasting the matches needs to be proved its worth. This calls for data driven analysis and strategies to come up with the best plans for teams (with the goal of lifting the IPL for every team)

Data Science offers great promise towards answering some of the pertinent questions teams and owners may have which could help them design the best teams possible with the limited budgets they have. Some of the questions could be :

- Which are the most explosive batsmen?
- Which are the most consistent batsmen?
- Which overs are best suited for charging the bowlers?
- Which batsmen need to be put against which bowlers for maximum returns (in terms of no. of runs)?
- Which bowlers have the best consistency?
- Which batsmen are more vulnerable to spin?
- What combination of bowlers should be used in the beginning spell?
- Which pitches are more batsmen/bowler friendly?
- Which batsmen are bunnies for a given bowler?

And the possibilites are just endless!!

You are a Data Analyst hired by Bangalore Royal Challengers which is struggling badly at IPL for past few seasons..

Your job would be to devise questions, metrics, dimensions concerning the given problem statement, collect, clean and process the data and in the end build a dashboard which would help RCB to gather actionable insights which would in turn help them come up with strategies to form the best team, win against teams and hence add value to the franchise

Please Note :

- Go through the questions below and solve using **PowerBI (For PowerQuery, use the one embedded within Power BI) ONLY**
- Please ensure that you include all your worked out files in a folder, zip the same and upload the same as attachment while submitting
- In the absence of worked out files, your submission will stand **INVALID**

Question 1

- The goal of this activity and the next one is to build a dashboard page which looks something similar to the one shown below
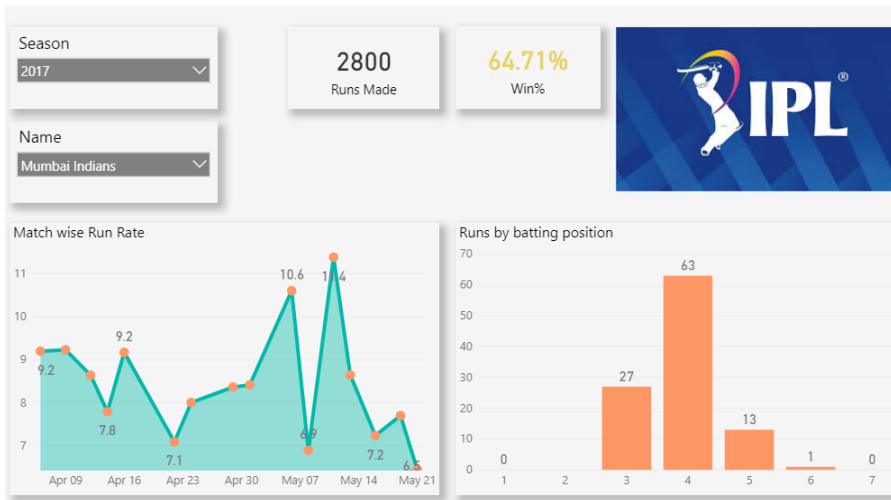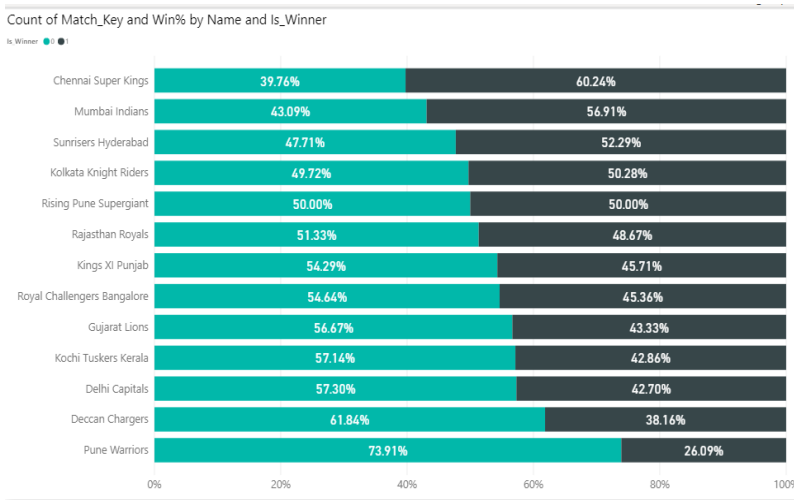

- Let's start doing the same. Work on the below mentioned steps :

- Open the provided Power BI template file called **submission_template.pbix**

- Create a **new column** called **Is_Winner** which indicates 1 if a given playing team also ends up winning the match else 0. (**Note :** Use **DAX**)

- Create a **new measure** called **Win%** which indicates % of matches won by a given team out of the total matches played

- Perform color formatting of the value as per below logic :

    - If Win% **<=33%**, then Color = **Red**
    - If Win% **> 33% and <= 66%**, then Color = **Yellow**
    - Else **Green**

Question 2

- Good job with the above activity. Let's build some visuals now
- Create the **2 slicers** (Use the datasets **season_key** and **team_key** respectively)

    - Ensure that the values in the slicer are set to **single-select**

- Create **2 KPI cards** as shown in the snapshot
- Create a chart to show match wise **run_rate** for a selected **season** and **team**
- Create a **column chart** (as shown in bottom right) to show run contribution (to be shown as %) by batting position
- **Insert an image** on top right (as shown above. Surf the web to fetch an appropriate image)

Question 3

- Build the two visuals (in 2 separate pages as shown below)

- **Visual 1 :** This shows **Win%** by team

    - Ensure that the matches which are won are highlighted in **GREEN** and those which are lost are highlighted in **RED**

Count of Match_Key and Win% by Name and Is_Winner

Team	Win% (Is_Winner 0)	Lose% (Is_Winner 1)
Chennai Super Kings	39.76%	60.24%
Mumbai Indians	43.09%	56.91%
Sunrisers Hyderabad	47.71%	52.29%
Kolkata Knight Riders	49.72%	50.28%
Rising Pune Supergiant	50.00%	50.00%
Rajasthan Royals	51.33%	48.67%
Kings XI Punjab	54.29%	45.71%
Royal Challengers Bangalore	54.64%	45.36%
Gujarat Lions	56.67%	43.33%
Kochi Tuskers Kerala	57.14%	42.86%
Delhi Capitals	57.30%	42.70%
Deccan Chargers	61.84%	38.16%
Pune Warriors	73.91%	26.09%

- **Visual 2 :** Shows **Year-on-Year change** in runs made, fours and sixes hit.

- **Note :** Add a **batsman filter** and play around with different well known batsman and observe their run making trend across the seasons :)

Year	R YoY%	fours YoY%	sixes YoY%
2009	-17.17%	-25.52%	-21.06%
2010	22.81%	29.86%	15.61%
2011	12.37%	11.94%	9.23%
2012	7.00%	-0.10%	14.40%
2013	0.49%	7.38%	-8.07%
2014	-17.69%	-24.90%	4.02%
2015	-1.29%	4.28%	-1.00%
2016	3.18%	1.56%	-7.80%
2017	-0.31%	-1.41%	10.50%
2018	6.65%	2.61%	23.69%
2019	-2.75%	0.06%	-10.09%

Question 4

- Create a new table (**use DAX**) to create a team-wise summary having following columns (for **IPL 2017**)

    - **Team_Name**

- #matches_played
- #total_runs_made
- Total_fours_hit
- Total_sixes_hit
- Highest_run_rate
- Total_Boundary_Contribution(%)

Question 5

- Create a new hierarchy for a match. The prescribed order : **Match --> Team --> Batsman**

- Use the **match hierarchy** and **batting position** to build a matrix as shown below. (**Psst :** The ask here is to find out more **versatile batsmen** who can be experimented with **different** batting positions)

- **Visual :** This shows **no. of matches played** by a given **batsman** for a given **batting position** (for a given team-batsman hierarchy)

- **Hide** the column totals

team	1	2	3	4	5	6	7	8	9	10	11	Total
Chennai Super Kings	99	99	97	91	87	63	44	25	13	7	2	99
A Flintoff					1							1
A Nehra									2	1		3
BB McCullum		21	1	2								24
CH Morris							2	1				3
CK Kapugedera						1						1
DJ Bravo				3	8	8	8	3				30
DJ Hussey			1		1	1						3
DR Smith	25											25
F du Plessis	4	5	5	11	2	1						28
GJ Bailey	1	1	1									3
JA Morkel				1	19	9	6	4				39
JDP Oram					3	4	1					8
JM Kemp						1						1
KMDN Kulasekara									1			1
L Balaji									5			5
M Manhas							5					5
M Muralitharan										2	1	3
M Ntini										1		1
M Vijay	21	24	1	2			1					49
MEK Hussey	25	11	3			1						40
ML Hayden		21	2									23
MM Sharma									3	1		4
MS Dhoni			6	35	33	10	2					86
MS Gony							3	1				3
Total	317	317	317	317	316	306	281	249	189	130	70	317