

Monash University: Assessment Cover Sheet

Student name	Khan	Mohib	
School/Campus	<i>Malaysia</i>	Student's I.D. number	33370311
Unit name	FIT3179 Data visualisation - S2 2023 MUM		
Lecturer's name	Ting Chai Wen Chai Wen	Tutor's name	Ting Chai Wen Chai Wen
Assignment name	Data Visualisation I Report	Group Assignment:	No
Note, each student must attach a coversheet			
Lab/Tute Class:	Tutorial 03	Lab/Tute Time:	9AM - 11AM
Due date:	03-09-2023	Submit Date:	03 - 09 - 2023
Word Count: 959 Words			
Extension granted <input type="checkbox"/>			

If an extension of work is granted, specify date and provide the signature of the lecturer/tutor. Alternatively, attach an email printout or handwritten and signed notice from your lecturer/tutor verifying an extension has been granted.

Extension granted until (date):/...../..... Signature of lecturer/tutor:

Late submissions policy	Days late	Penalty applied
Penalties apply to late submissions and may vary between faculties. Please refer to your faculty's late assessment policy for details.		

Patient/client confidentiality: Where a patient/client case study is undertaken a signed [Consent Form](#) must be obtained.

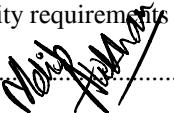
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FIT 3179

Data Visualisation 1

Link to my visualisation

Link to my dataset

Word count: 959 Words

The Report

This visualisation caters to devoted McLaren enthusiasts, offering an immersive journey through the team's remarkable Formula One history. It's a treasure trove of insights, unravelling intricate relationships between McLaren, legendary drivers, and conquered circuits. Whether you're a historian, current fan, or sports analyst, this visualisation engages users by narrating a team's indelible mark on the sport.

The dataset, provided by Vopani on Kaggle, encompasses various CSV files like circuits, constructors, drivers, and more. Originally, I planned to base my visualisation on the entire Formula One dataset. Still, due to numerous missing data values in the results file, I focused on a single constructor. Primary data sources include circuits, constructor results, driver standings, and more. Connecting these CSV files allowed me to create meaningful data connections.

Line Chart: This idiom was used to show the pattern of points obtained by McLaren from 1972 to 2022. A line chart is an effective way to display trends over time. Users can easily observe how McLaren's performance evolved over the years, identifying peaks and lows in their journey.

Stacked Bar Chart: This chart type was employed to showcase McLaren's dominance over specific circuits. Stacked bar charts are ideal for comparing multiple categories within a dataset, making it clear how McLaren performed on particular tracks. Users can see how McLaren's success varies from one circuit to another.

Packed Bubble Chart: The packed bubble chart was used to represent the total points of Formula One drivers, with the size of each bubble indicating their points. The unique aspect here is that users can explore how top-performing drivers have been part of McLaren at some point in their careers. This adds an intriguing layer of insight into the McLaren team's historical significance.

Tree Map: Lastly, the tree map was incorporated to display McLaren's dominance in the last 10 years. Tree maps are effective for visualising hierarchical data. Users can quickly discern how McLaren's recent performance compares to other years, making it easy to understand their current standing in Formula One.

The line chart allows users to understand how McLaren's performance has evolved over five decades, identifying key moments and eras of success. The stacked bar chart helps users compare McLaren's performance on different circuits, highlighting their strengths and weaknesses at specific tracks. The packed bubble chart enables users to explore which top-performing drivers have been associated with McLaren, showcasing the team's historical significance. The tree map provides a clear picture of

how McLaren has performed in the last decade, allowing users to assess their current standing in Formula One.

Special features of my visualisation include the information icon “*” (**Figure A**) gives users an important disclaimer, interactive elements such as tooltips that provide additional information when users hover over data points. Additionally, there are user-friendly filters such as the slider from 1968 - 2022 that allow users to customise their viewing experience in viewing trends on line charts focusing on specific years. They can also compare McLaren's and some other constructor's journeys in Formula One by using the constructor filter. These features enhance user engagement and facilitate a more insightful exploration of the data.

Placing Line Chart at the top allows users to first understand the overall trend in McLaren's performance over the years. It sets the historical context for the subsequent visualisations.

Placing a stacked bar chart (**Figure B**) right below the line chart provides a clear segue from the historical overview. Users can now delve deeper into specific circuits where McLaren has dominated. It maintains a logical flow from the line chart.

Next is Packed Bubble Chart (**Figure C**) so that users can easily see how drivers' points relate to their time with McLaren, providing additional context.

The tree map is placed at the bottom of the visualisation (**Figure D**), creating a sense of conclusion. Users can assess McLaren's recent performance compared to previous years. It serves as a summary and provides a current perspective. This layout ensures that users follow a logical and engaging narrative as they explore McLaren's story in Formula One.

I picked McLaren's theme colour which is orange and hence to highlight the theme I made the background black since black theme makes the user readability better.

Visual hierarchy was established through deliberate choices in size, fonts, and colour. Larger, bolder fonts were strategically used for titles and headers, serving as focal points for users.

A consistent colour scheme ran throughout the visualisation, promoting coherence and enabling quick identification of crucial data points. Essential information, like data points on charts and specific years in the filter slider, stood out through bold text and contrasting colours. Dotted borders around legends (**Figure A**) and filters further emphasised their significance and improved user guidance.

For the main title (**Figure A**), I used "Copperplate Gothic Bold." This sans-serif typeface is known for its distinctive, bold appearance, which added a strong emphasis to the title. Additionally, for body text, labels, and other informative elements, I opted for "Montserrat." This sans-serif typeface offers excellent legibility, making it well-suited for conveying information and providing context.

This visualisation tells the captivating story of McLaren's journey in Formula One. Starting with a Line Chart spanning from 1972 to 2022, readers witness the team's historical performance trends. Annotations on pivotal years, like 2011, when McLaren had Lewis Hamilton, offer intriguing insights. The journey continues with a Stacked Bar Chart, showcasing McLaren's dominance on select circuits. Annotations here reveal where McLaren began its racing legacy. In the Packed Bubble Chart, readers explore the connection between top-performing drivers and McLaren's history. Finally, a Tree Map summarises the team's last decade's performance. Annotations enrich this narrative by adding context and interesting facts, guiding readers through McLaren's iconic story.

Screenshot of my whole visualisation are provided on next page (Figure A, Figure B, Figure C and Figure D)

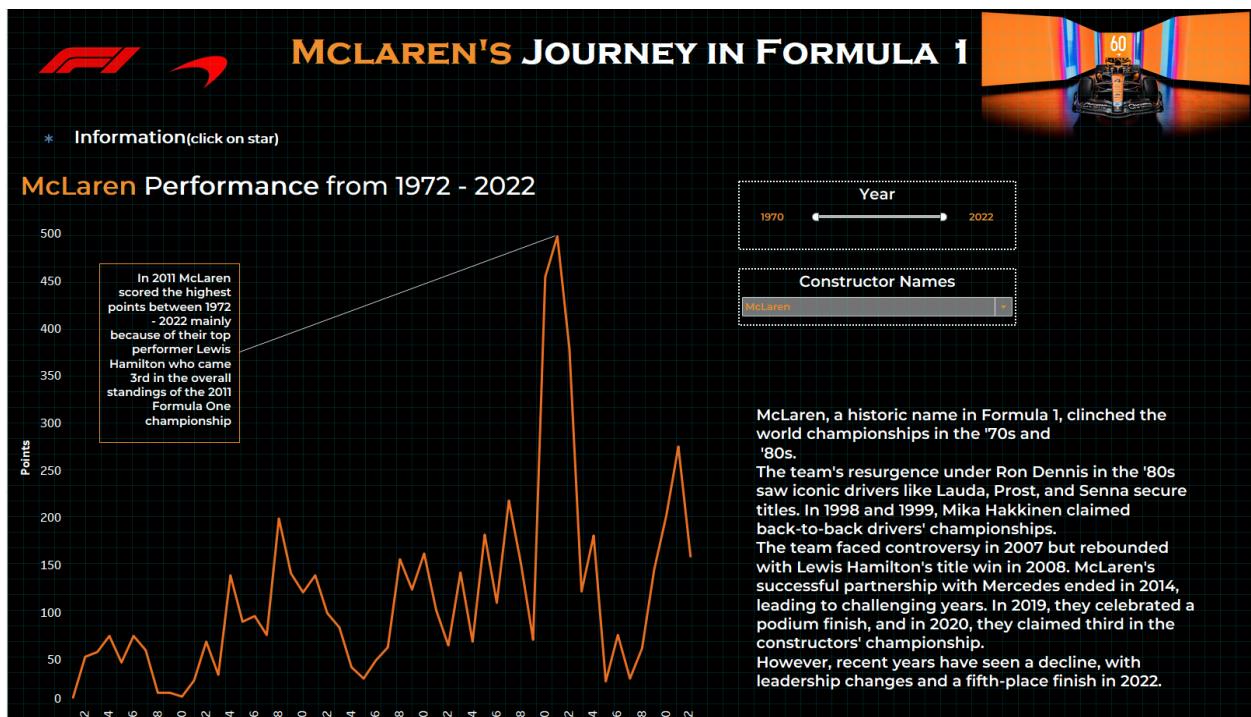


Figure A

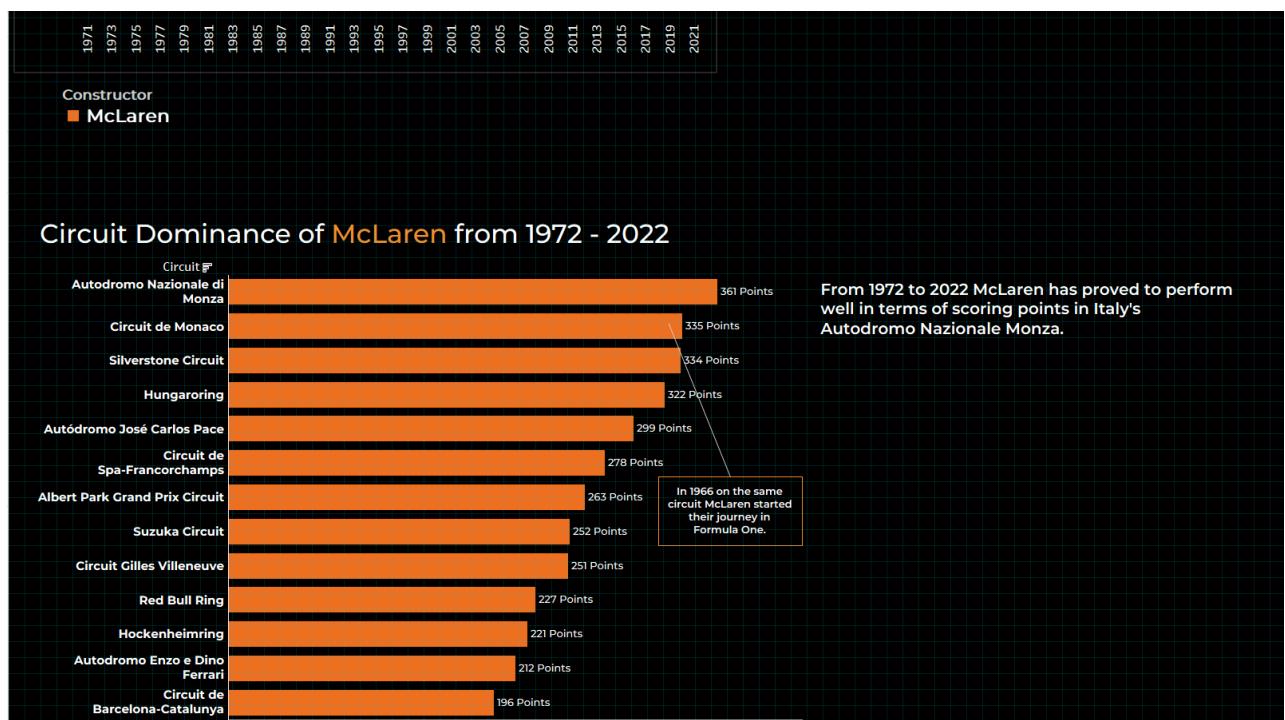


Figure B

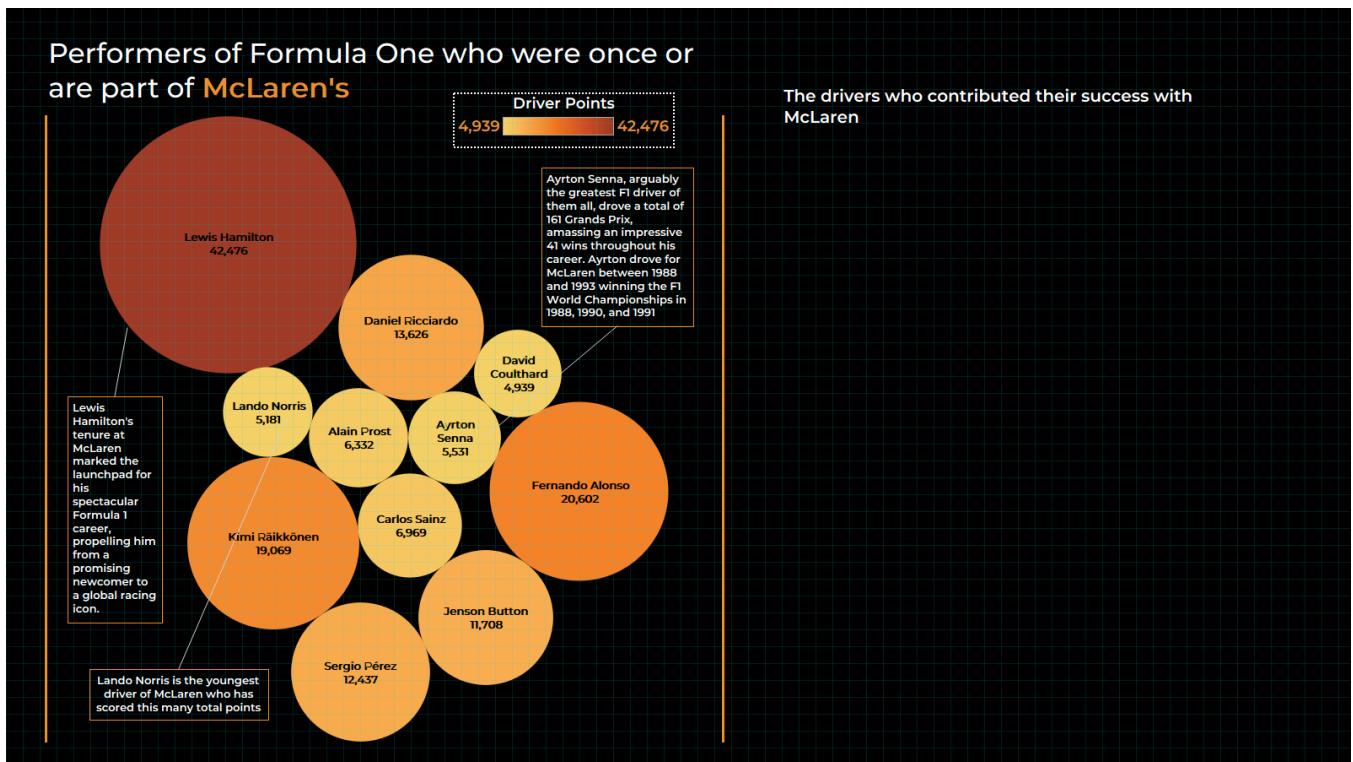


Figure C

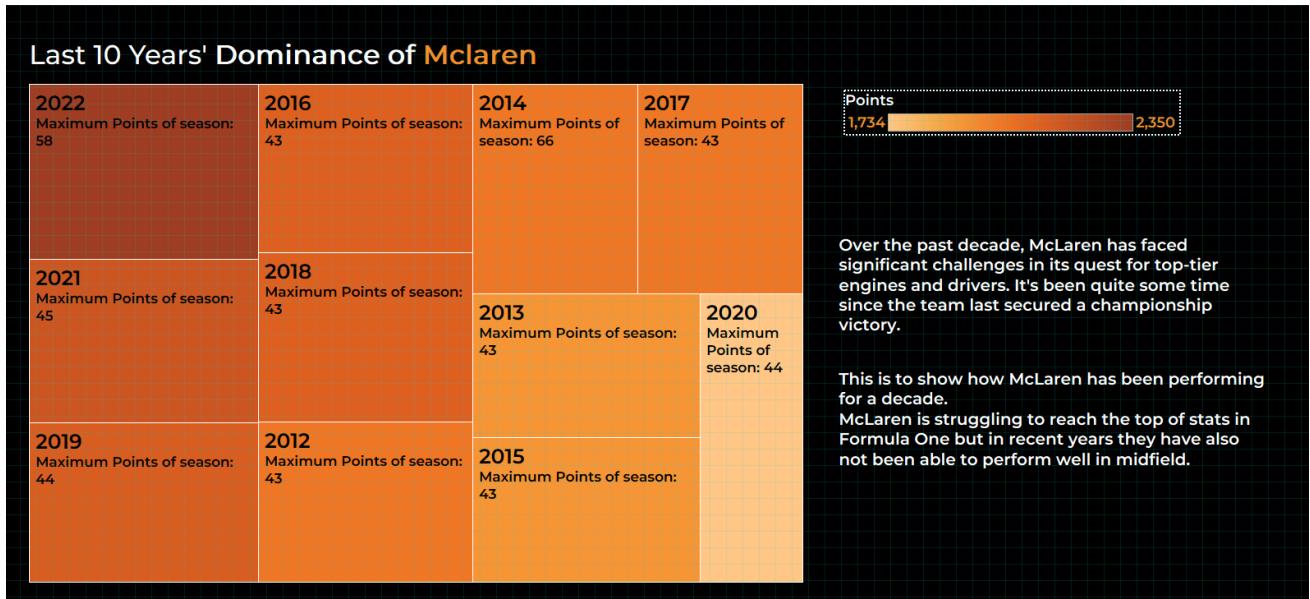
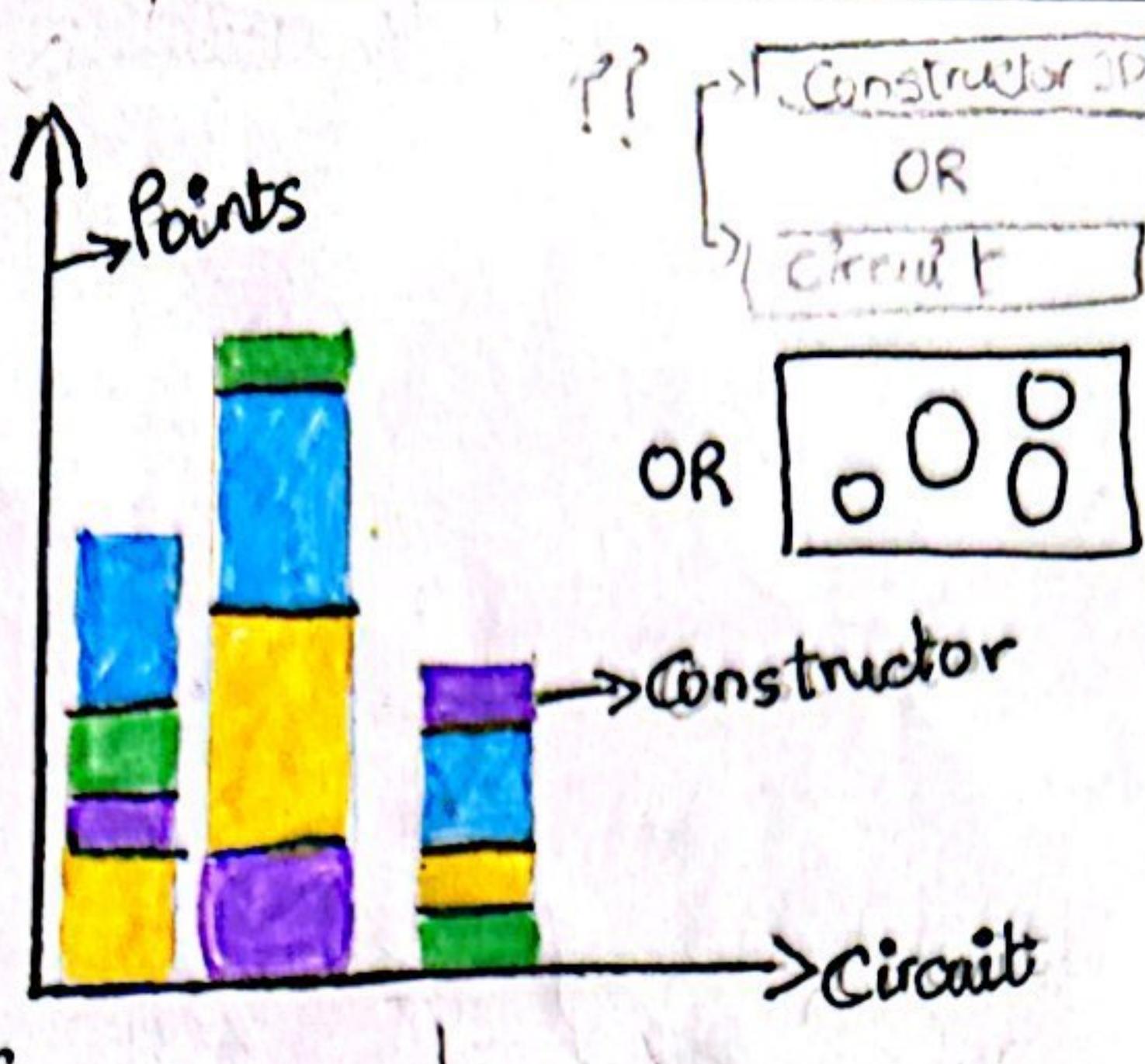


Figure D

SHEET 1

Ideas

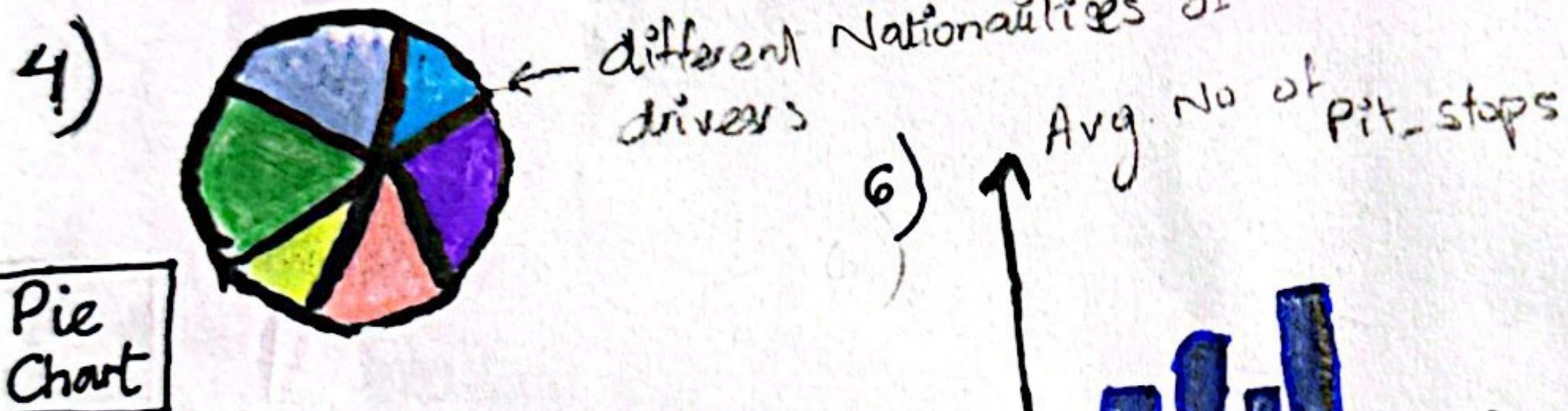
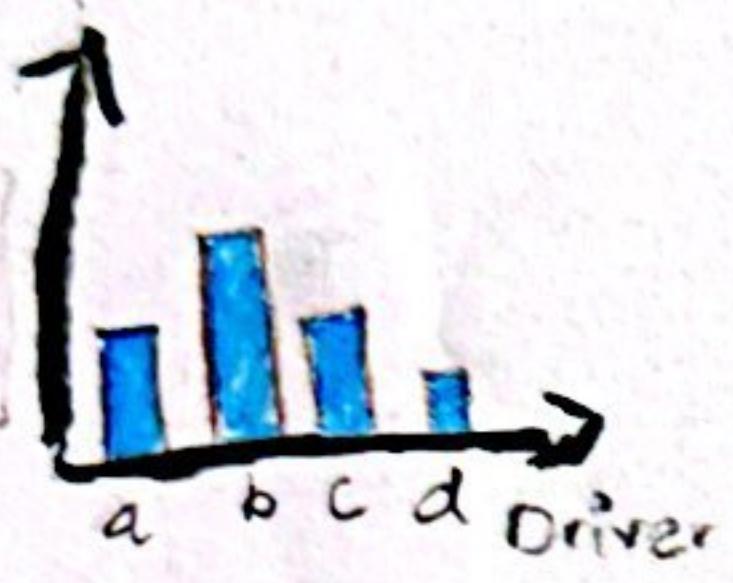
1) Stacked Bar



2) Line-Chart

3) Bar-Chart

Drivers Performance



5) Heat-Map

Constructor's Performance dominance over the years



Bar - Graph

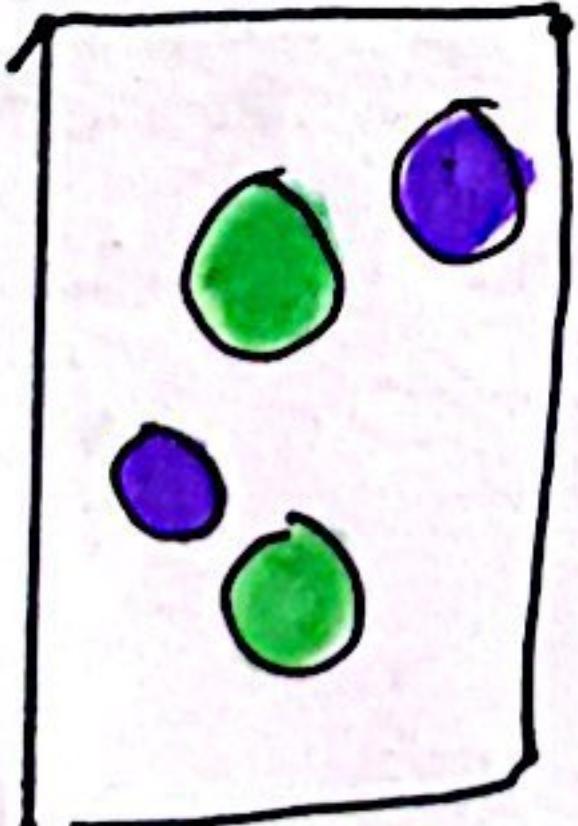
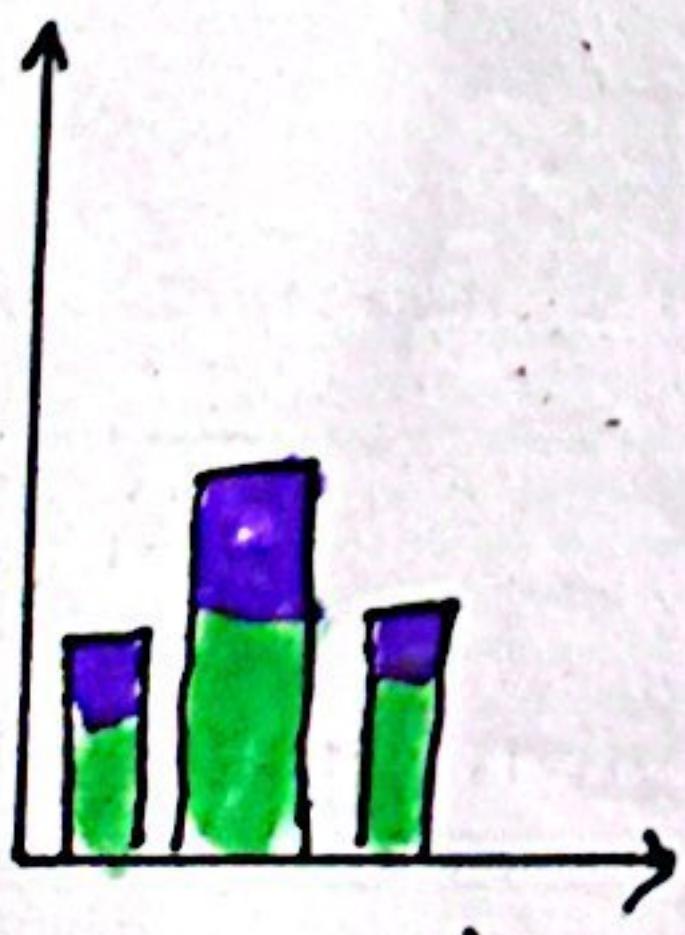
not allowed

MAP

Circuit locations and the constructor total points there.

SAME idea or data as stacked bar chart (1)

Combine and Focus

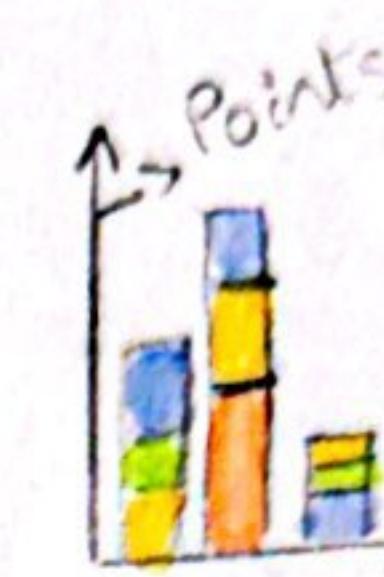


Driver's Performance

FILTER

MAP

→ Driver's Performance



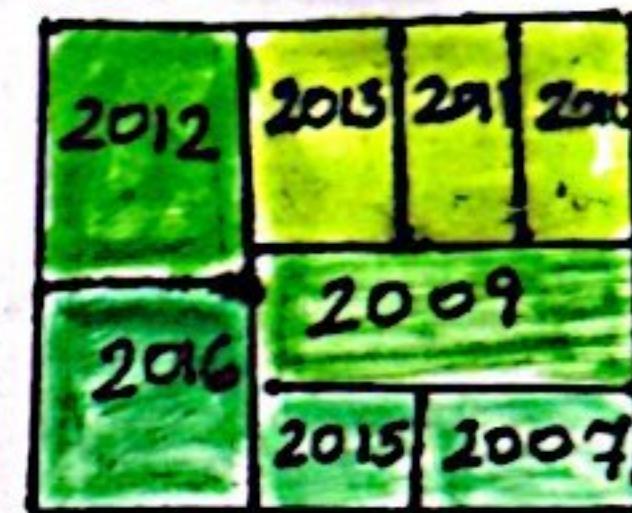
Or circuit

→ Constructor's Performance on a circuit using MAP

1950 - 2023 → Constructor's Performance

5 Over the year dominance

Tree Map



CATEGORIZE

Driver's Performance

Constructors different Nationality of drivers

1950 - 2023 Constructor's Performance

Constructors Performance on circuits

Question

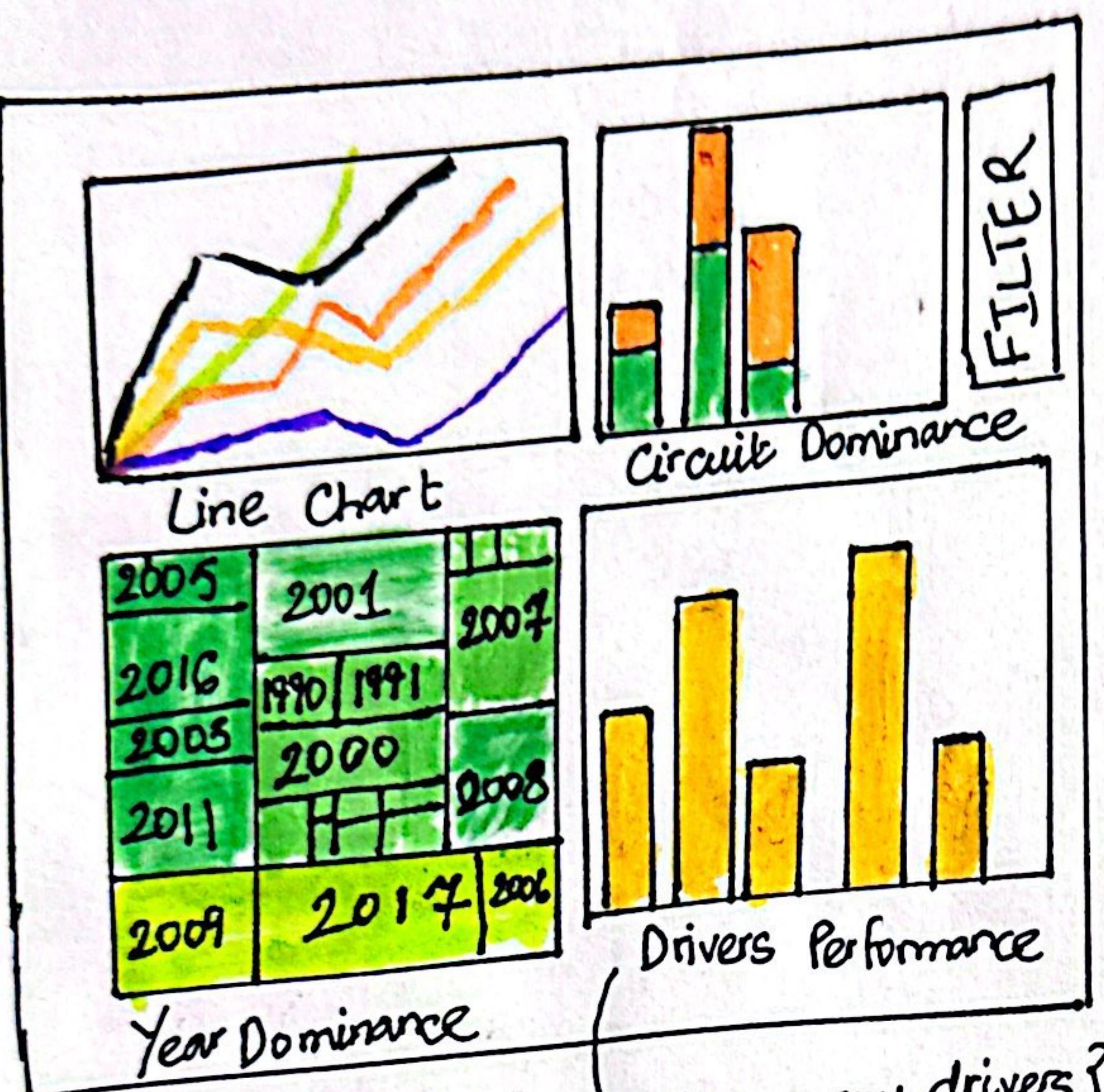
1) Provides user the diversity of formula one's drivers

2) Complete analysis of Constructor's performance

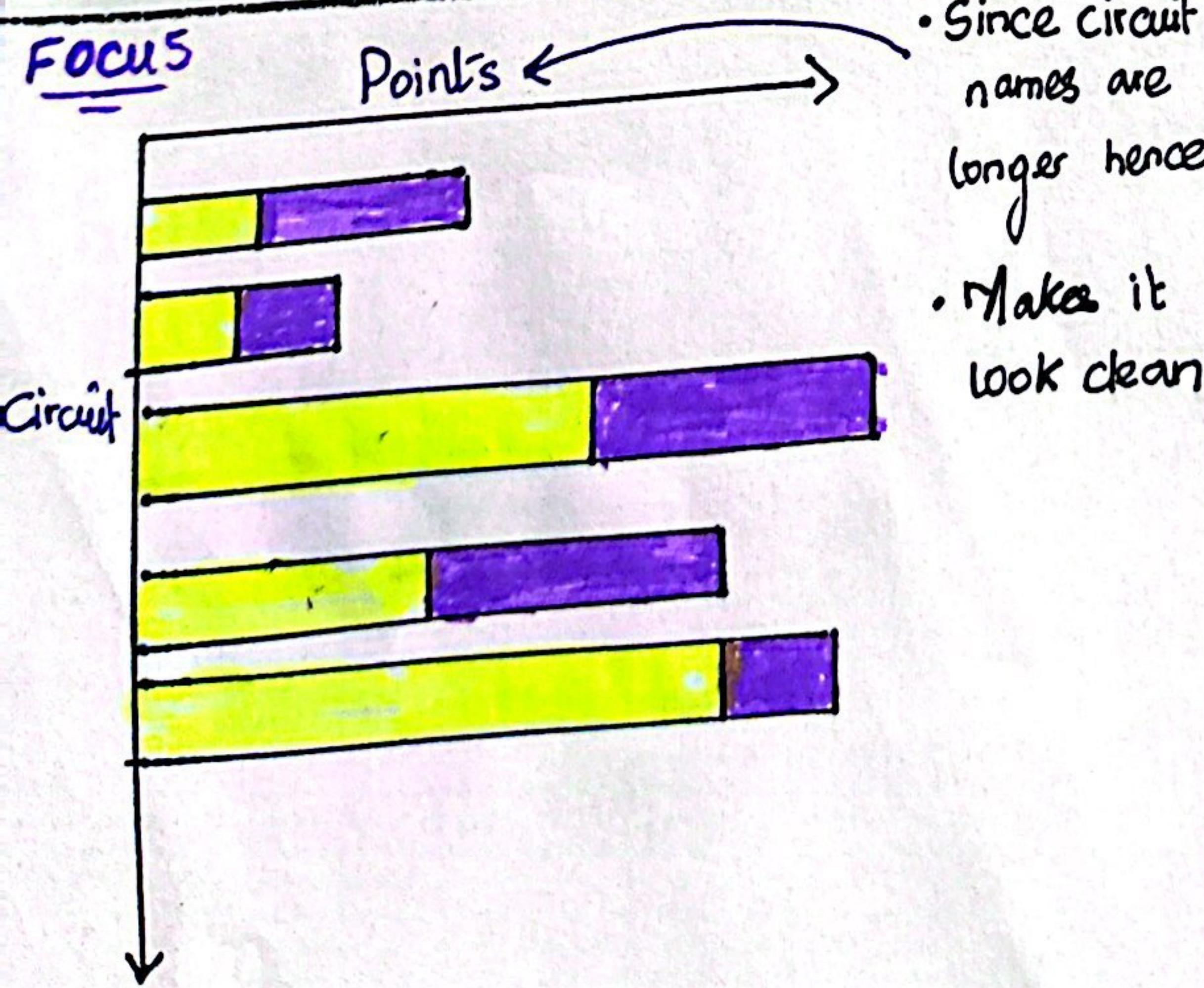
3) Deep analysis of driver's performance

4) Timeline too long

LAYOUT



, too many drivers?
idiom repetition



Title: Dashboard View

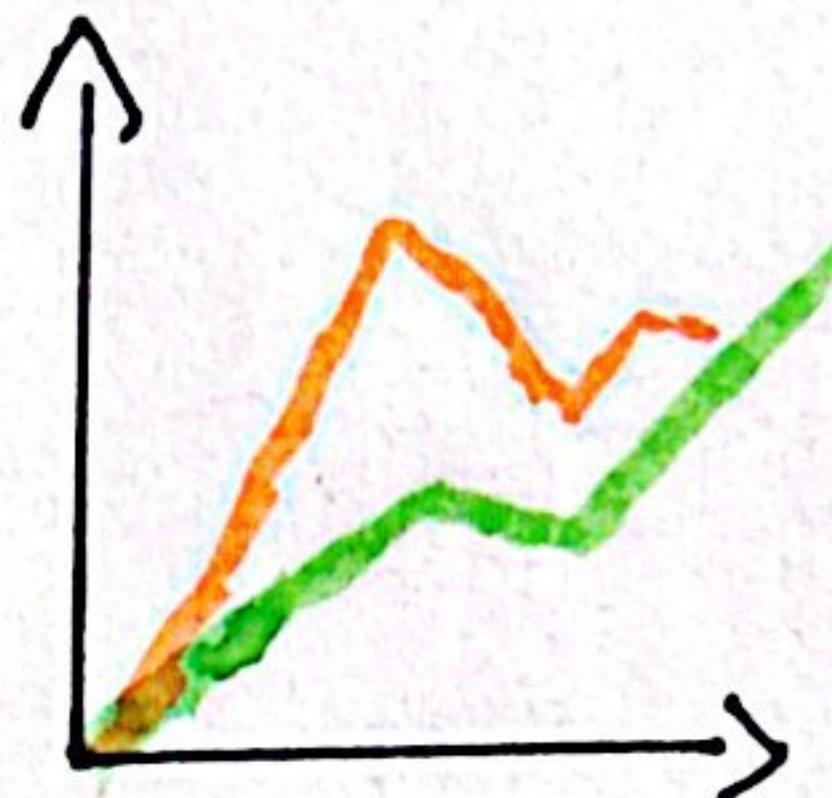
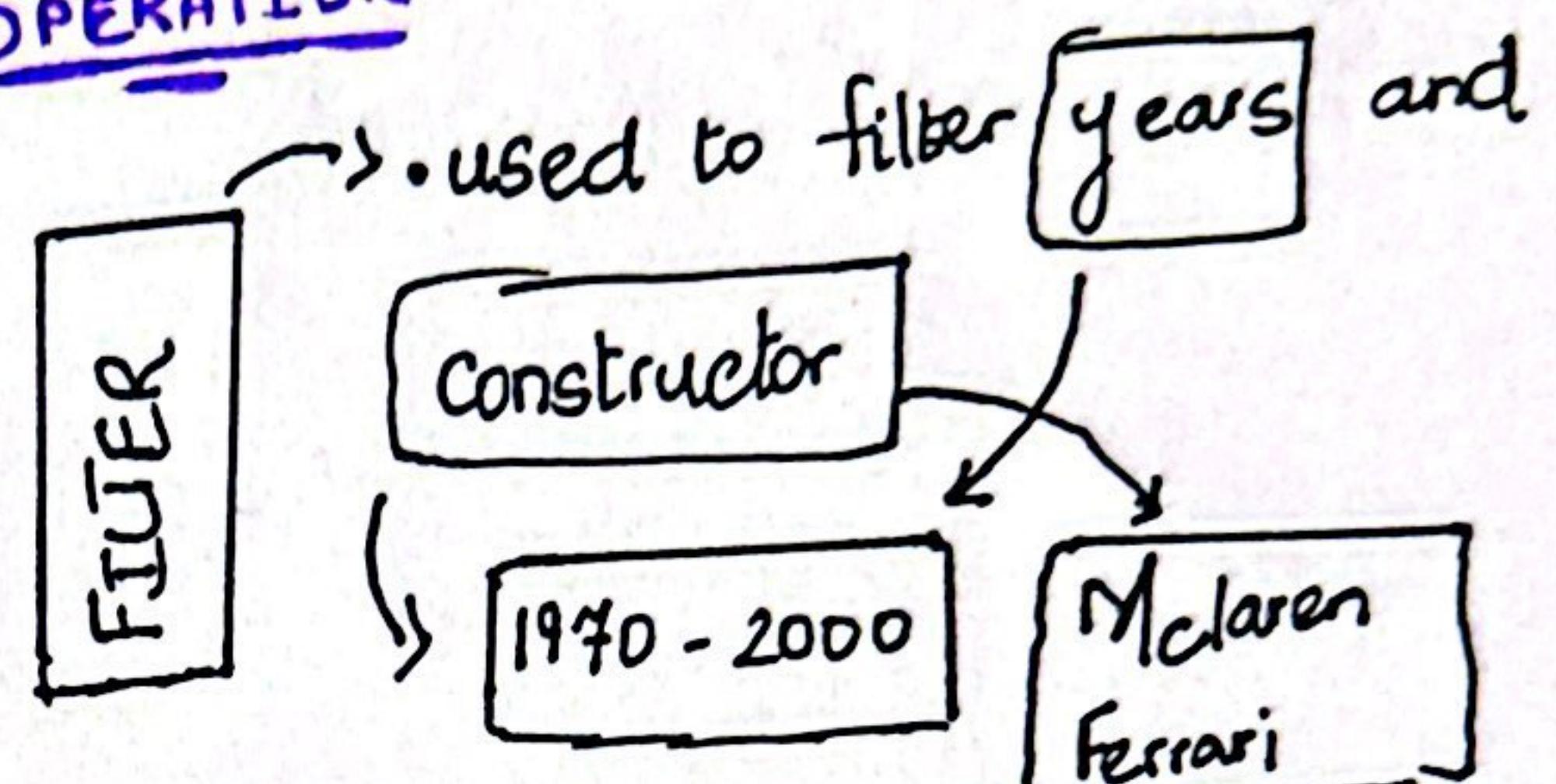
Author: Mohib Ali Khan

Date: 23rd August 2023

SHEET: 02

Topic: ~~Actor~~ Formula 1 championship

OPERATION

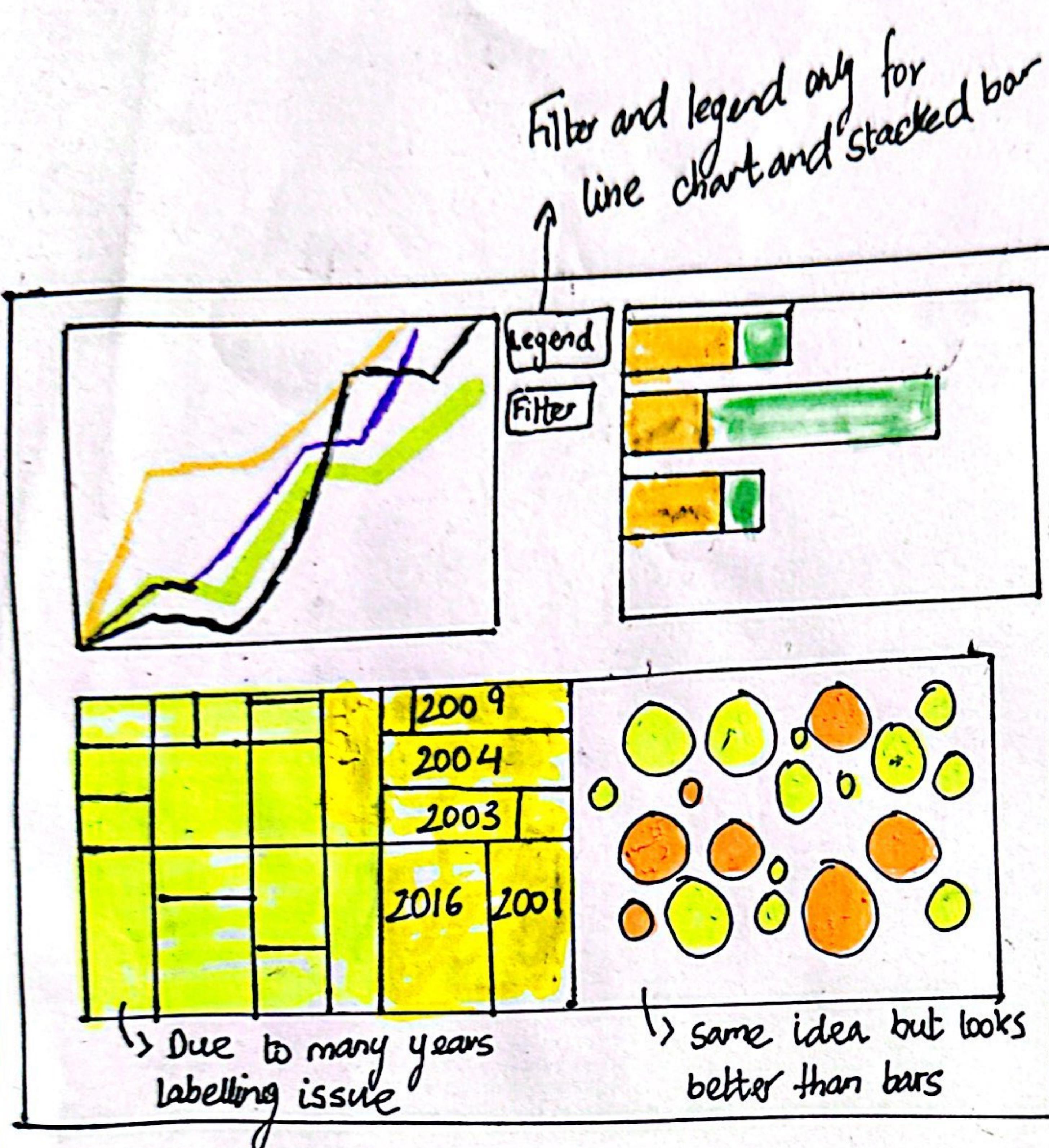


- Filter would just be reflected on every visualisation except Tree-Map

DISCUSSIONS:

- Too much data
- Drivers are too many
- Layout is fine
- Since we have large visualisations hence tight to fit.
- Too many years hence tree map looks totally meaningless
- Labeling is tough / tight.

LAYOUT



Title: Dashboard View

Author: Mohib Ali Khan

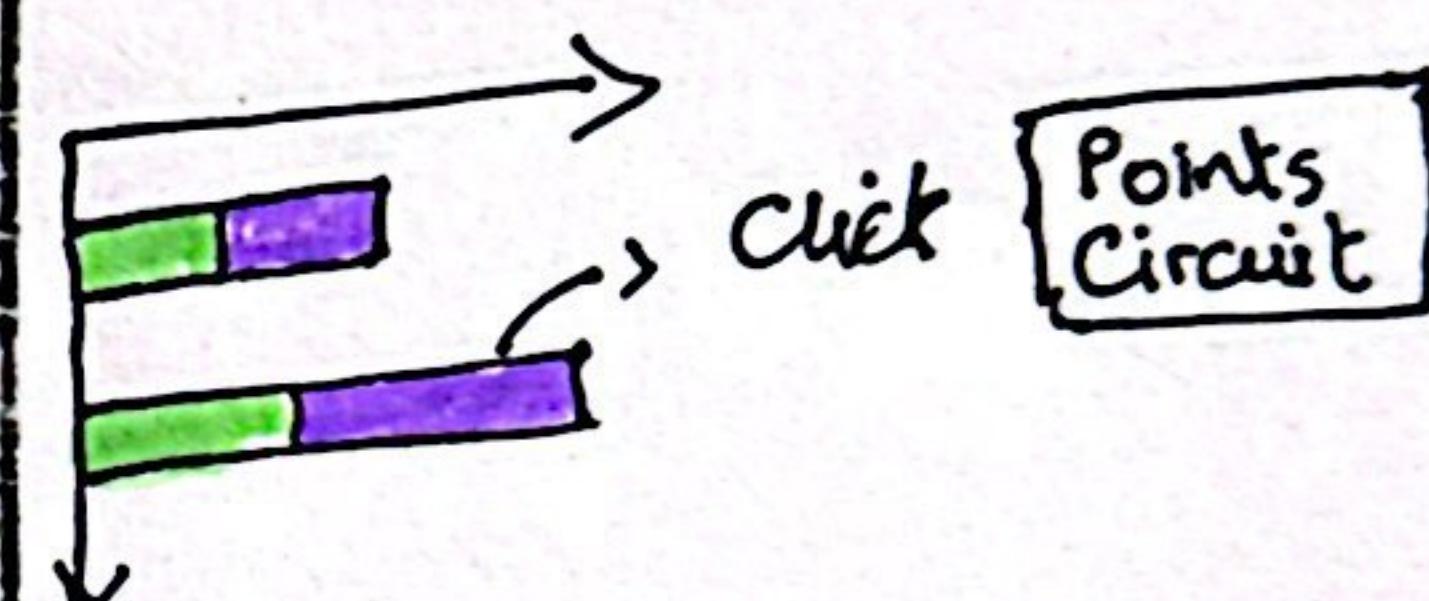
Date: 23rd August 2023

SHEET: 03

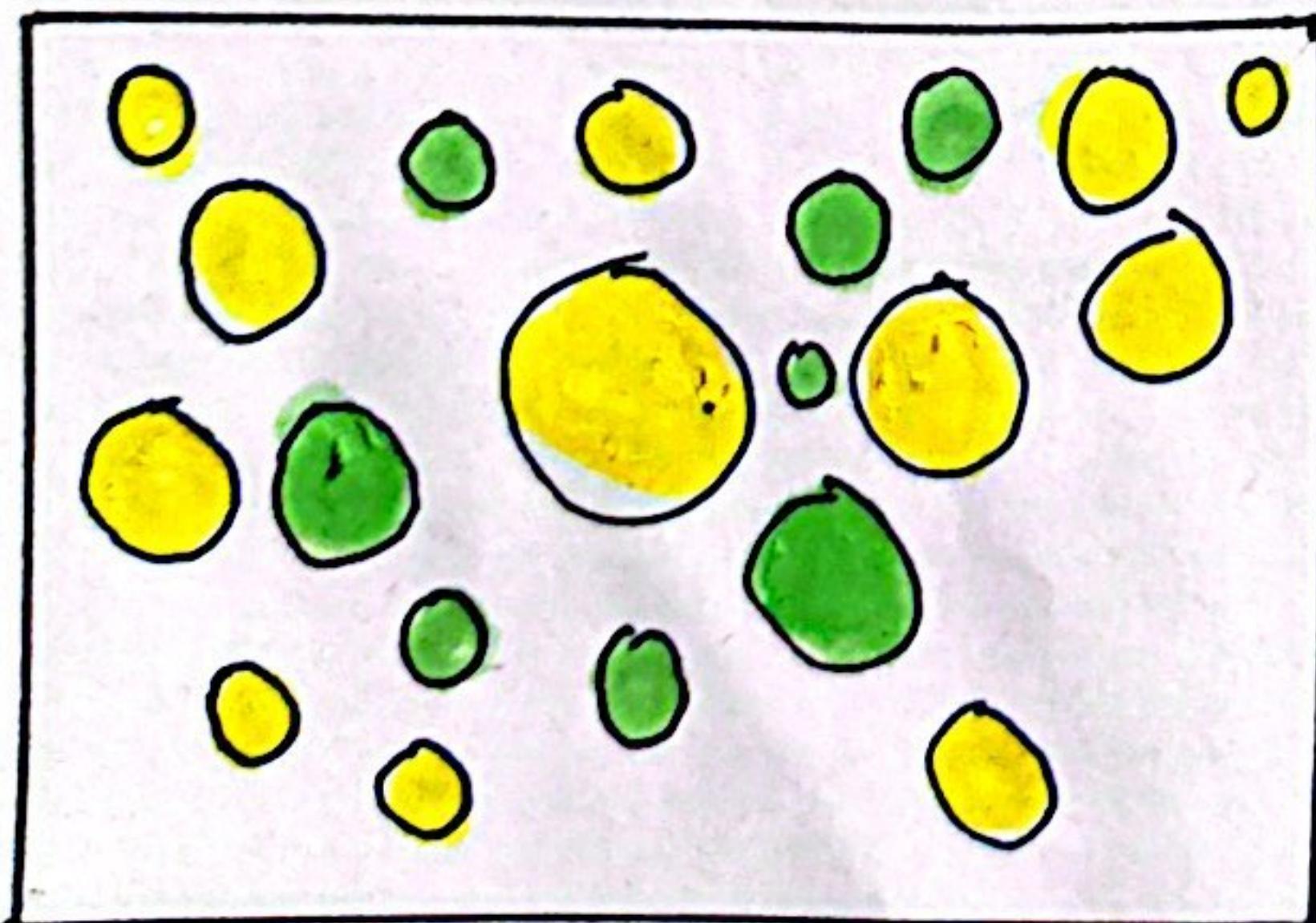
Topic: Formula 1 Championship

OPERATION

FILTER → would only filter line chart and Stacker bar



Focus



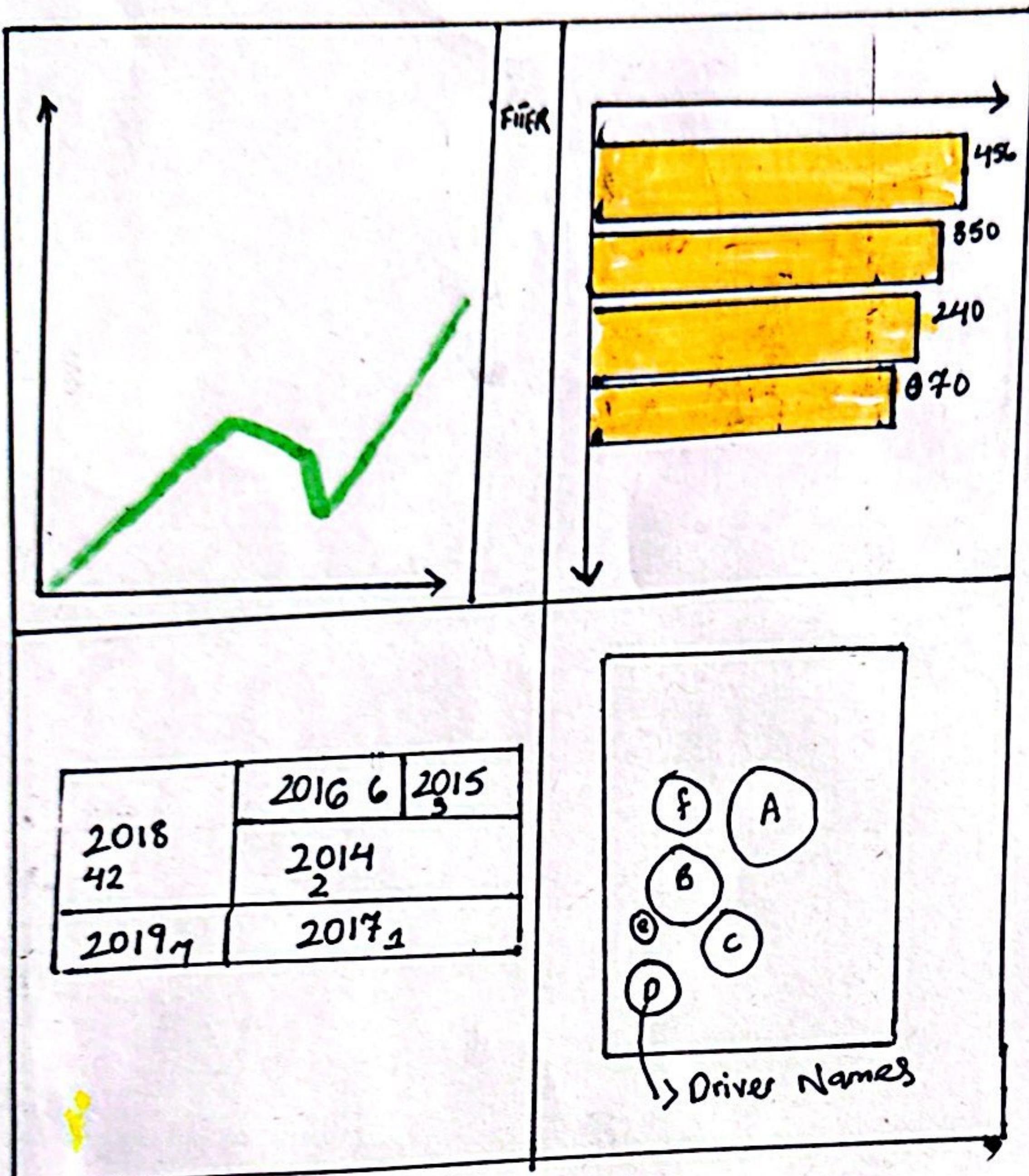
→ Bubble size represents Points

→ Colour represents constructor driver belong to

DISCUSSION

→ Even though filter used we need to filter data

LAYOUT



Title: Dashboard View

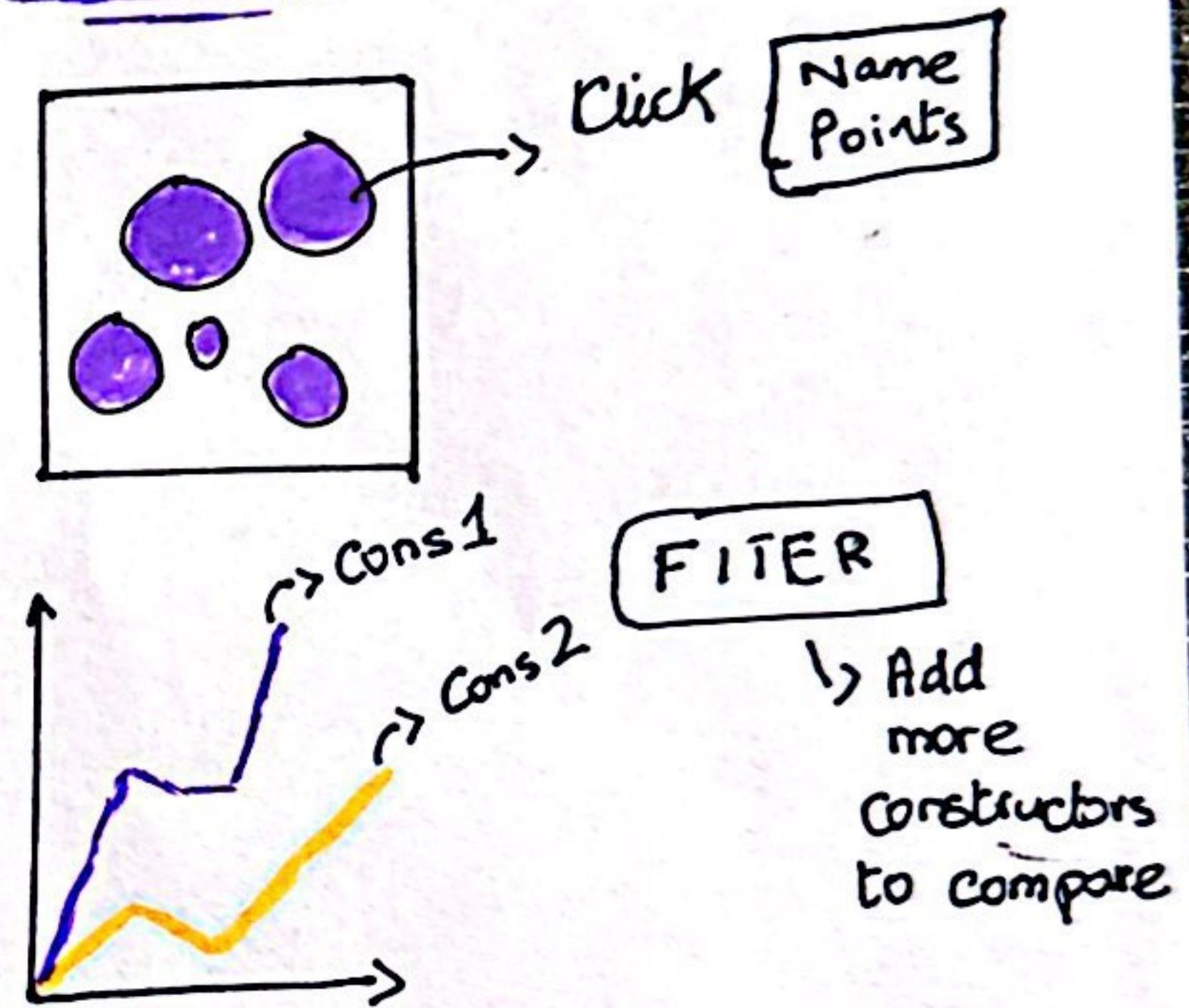
Author: Mohib Ali Khan

Date: 23rd August 2023

SHEET: 04

Topic: McLaren Journey

OPERATION



Focus

- Focus points:
- making user readability better
 - Bars in descending order making focus better
 - will only have one constructor at start
 - User can add more

Table showing seasons and their maximum points:

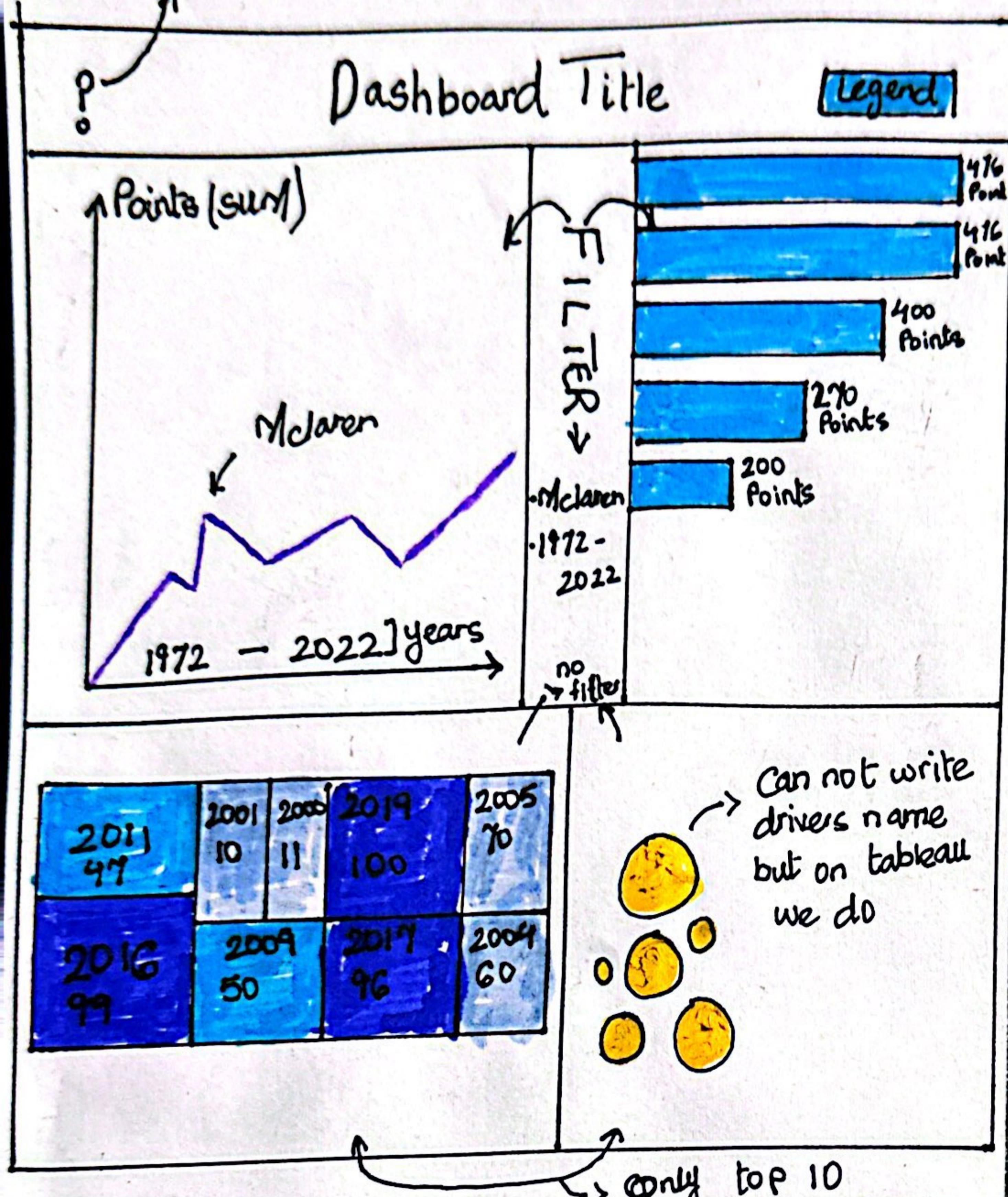
Year	Max points of season
2009	50
2016	100
2011	412
2008	50
2017	101
2010	40

DISCUSSION

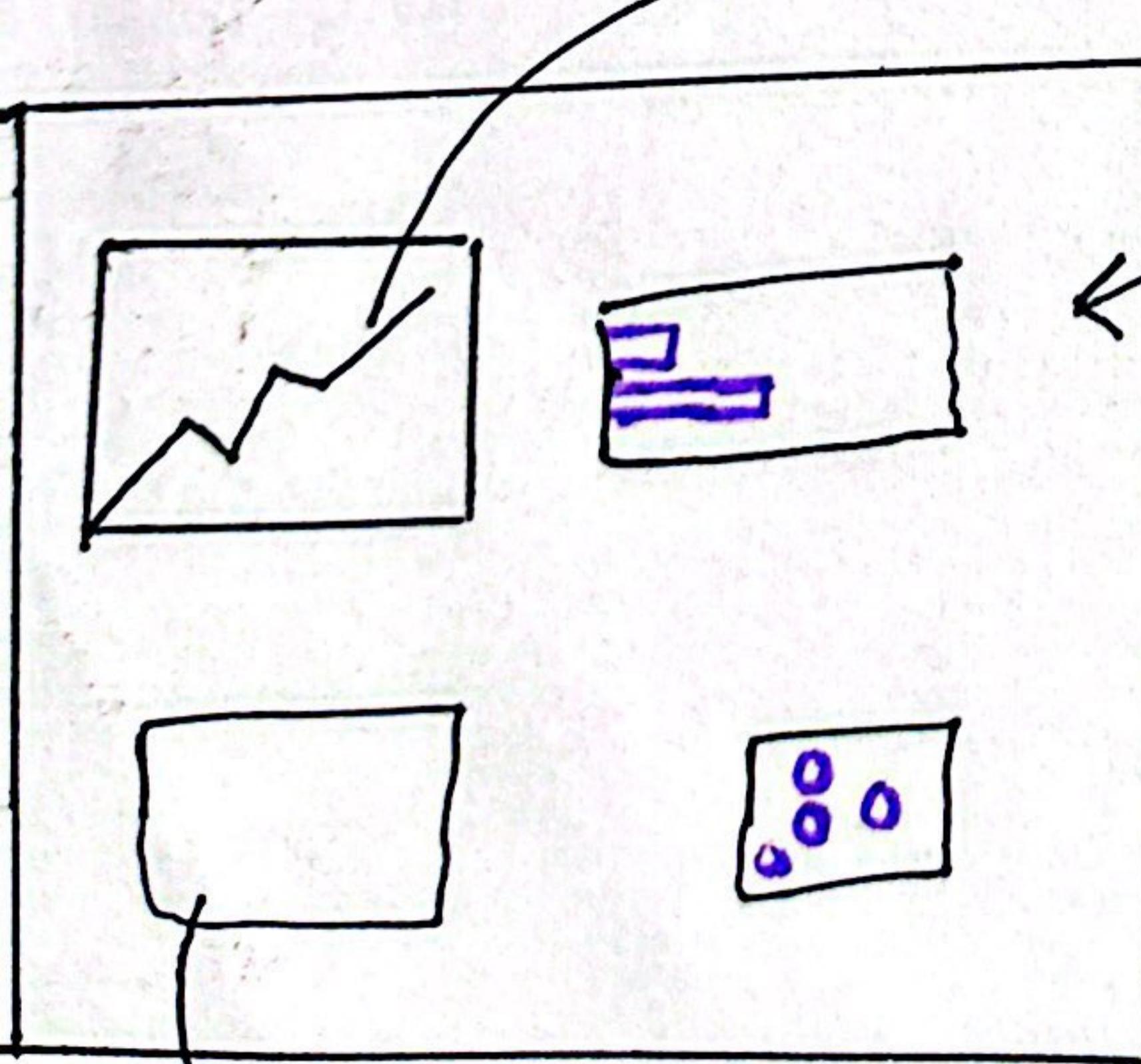
- The story now revolves around one constructor hence makes things focused
- Years are filtered
- Data looks clean.

LAYOUT

information



Focus



Colour difference to highlight dominance

Title: Final Dashboard look

Author: MOHIB ALI KHAN

Sheet: 05

Date: 23rd August 2023

Topic: McLaren Performance
1972 - 2023

Detail

Detail

- The visualisation revolve around McLaren
- Very clean
- Provides a McLaren fan with useful information
- The information detail is creative