

The Tragedy Of Flight:

A Comprehensive Crash Analysis

INTRODUCTION:

In the vast and dynamic realm of aviation, the safety of passengers and crew remains paramount. Yet, amidst the awe-inspiring feats of modern aircraft technology and the meticulous procedures of aviation professionals, tragedies still occur. The crash of an airplane, whether commercial, private, or cargo, reverberates with profound impact, leaving behind a trail of devastation and questions.

"The Tragedy of flight : A comprehensive crash Analysis" seeks to delve deep into the complex tapestry of factors that contribute to aviation disasters. From the towering specter of human error to the intricate interplay of mechanical failures, weather phenomenon, and regulatory oversights, this analysis to unravel of aviation accident

CHAPTER 1: EXECUTIVE SUMMARY

The internship report encapsulates a comprehensive learning journey in the field of data analytics, focusing on Tableau Desktop, a prominent business intelligence and performance management software suite. The internship program spanned 6 weeks, consisting of structured training sessions, hands-on projects, knowledge sessions, and career development activities. The report outlines the key learning objectives and outcomes achieved during the internship, along with a brief overview of the business sector and the hosting organization.

Learning Objectives:

1. Gain proficiency in business intelligence concepts, including data integration, processing, presentation, and ETL architecture.

2. Understand the fundamentals of data analytics, encompassing descriptive, diagnostic, predictive, and prescriptive analytics.
3. Acquire practical skills in using Tableau for data visualization, covering topics such as connecting to data sources, creating charts, and working with filters.
4. Develop a strong foundation in database management, including creating databases, performing CRUD operations, and basic SQL operations.
5. Master advanced Tableau techniques, including calculated fields, LOD expressions, data blending, and working with parameters.
6. Learn to build interactive dashboards and stories in Tableau for effective data communication and analysis.
7. Gain proficiency in web development frameworks like Flask and Bootstrap for building Tableau-based web applications.

Learning Outcomes:

1. Participants gained practical knowledge and hands-on experience in business intelligence concepts, enabling them to integrate, process, and present data effectively.
2. Understanding of various data analytics techniques empowered participants to analyze data comprehensively and derive valuable insights for decision-making.
3. Proficiency in Tableau enabled participants to create visually appealing and insightful data visualizations, enhancing data communication and analysis capabilities.
4. Strong fundamentals in database management equipped participants to create handle databases efficiently and perform basic SQL operations confidently.
5. Mastery of advanced Tableau techniques empowered participants to create complex data visualizations and perform advanced data analysis tasks.

CHAPTER 2 : OVERVIEW OF THE ORGANIZATION

Industry Profile.

Smart Bridge is an EdTech Startup based in Hyderabad, Telangana, India.

It was founded in 2015 with the mission of bridging the gap between academics and industries. SmartBridge provides a platform for students, colleges and companies to connect and collaborate.

Since the launch of SmartIntenz Platform in 2020. Our talent development programs have successfully upskilled over 300,000 students and 30,000 faculty members in Emerging technologies. Renowned companies such as IBM, Google, Salesforce, VMware and others have placed their trust in our platforms. We have placed their trust in our platforms. Our platforms have placed their trust in our platforms. SmartBridge has a strong network of over 800,000 students, 2500+ colleges and 50+ companies.

SmartBridge is Dedicated to all women's talent mission to provide

Smart Bridge Mission:-

Smart Bridge mission to establish a sustainable talent pipeline for the emerging industry by fostering strong industry-academia connections. Through our Project-based learning and virtual internship programs we equip students with in-demand skills in cutting edge technologies to succeed in their careers.

Smart Bridge Core Values:-

1. Student Centric Approach:-

Our students are at the core of everything we do. We prioritize their learning needs, aspirations and career growth. Providing support and guidance.

2. Innovation:-

Embracing innovation is fundamental to our ethos. We constantly seek new and effective ways to enhance learning experiences, staying at forefront of technologies and methodologies.

3. Equal Opportunities:

We are committed to ensuring equal opportunities for all students, regardless of their geographical location. We strive to bridge the gap between students studying in cities failing same level of quality education and opportunities.

4. Social Impact:

We are driven by a sense of responsibility to make a positive impact on society. Our efforts go beyond individual success stocks. Seeking to uplift communities and contribute to a better world.

Outcome-Drive Partnership:

We believe in forging partnerships that are focused on tangible outcomes and mutual outcomes. Our collaborations are aimed towards achieving concrete results and positive impact.

Smart Bridge Objectives:

Smart Bridges main objective to bridge to existing

Gaps between prevailing industry standards and what the academics offer to the graduating to the young talent before boarding their first job.

Main objective of SmartBridge:

- Internship for every student.
- Promote Industry Approval professionals electives.
- Become a Talent factory of India by 2026.

Corporate Profile:

At smartBridge our cutting-edge ed-tech platform, "Smart Internz" serves as a catalyst for fostering collaboration between academia and industry. By providing project-based collaborative learning solution intricately into curriculum it empowers students to cultivate essential techniques and professional skills required to become job-ready candidates. The platforms immersive learning journey.

Over View:-

An airplane crash analysis is a detailed investigation into the causes of an aviation accident. The goal of an airplane crash analysis is to identify any factors that contribute to the accident, with the ultimate goal of improving safety and preventing future accidents.

An aviation accident is defined by the convention on "International civil aviation". Annex 13 defines an aviation accident as an occurrence associated with the operation of an aircraft that affects or could affect the safety of operation.

Purpose :-

Now a days airways are more common like road ways. People tends to use airways in order to save time. Henceforth the main purpose of choosing this topic is to reduce Aviation accidents.

Aviation accidents can we traced to a variety of causes, including pilot error, air traffic controller error, manufacturer defects or inclement weather.

We cant control weather conditions but we can reduce human error by taking proper measures.

Overall in this topic we prominently discuss about various ways to reduce aviation accidents in large percentage.

Core Features:

1. Extensive Data Repository:

The project houses a rich dataset containing detailed information about plane crashes, including date, time, location, operator, flight number, route, aircraft type, registration, casualties, and more.

2. Data Transformation And Storage:

The data is meticulously transformed and stored in a structured manner to enable efficient analysis, including data normalization, handling missing values, and ensuring data integrity.

3. Robust ETL Processes:

Python scripts are utilized for Extract, Transform, Load (ETL) operations, facilitating the transfer of data from diverse sources to Amazon Redshift, a high-performance, fully managed data warehouse.

4. Interactive Power BI Dashboard:

A dynamic Power BI dashboard has been crafted to offer users an intuitive interface for exploring and visualizing the dataset.

Users can interact with the data to answer critical questions related to plane crashes.

5. In-Depth Analysis:

The project empowers user to gain insights by addressing questions such as identifying peak years for plane crashes, determining which armed forces experienced the most losses, identifying common reasons for crashes, assessing companies with the highest incident rates, examining survival statistics, ground casualties, and pinpointing countries with the highest crash occurrences.

Project Process:

This repository contains the code and data for the "Flight Tragedy Analysis Data Engineering Project". The project involves analyzing airplane crash data from kaggle, building a data model, creating a Power BI dashboard for comprehensive analysis.

1. Data Acquisition:-

- Downloaded the dataset from kaggle, which contains historical airplane crash data from 1908 to 2009.

2. Data Modeling:-

- Created a data model to define the structure and relationships with the dataset.

3. Database Creation:-

- Established a relational database to efficiently store and manage the structured data.

4. Data Storage:-

- Uploaded the processed dataset into an object store on Amazon S3 for easy access and scalability.

5. ETL Process:-

- Developed Python scripts for the ETL process to:-

- Extract data from the source dataset

- Transform and clean the data

- Load the data into the Amazon Redshift database for analysis

6. Power BI Dashboard:-

- Created a Power BI dashboard to visualize and analyze the airplane crash data, answering questions like:-

- Which year had the highest no. of plane crashes?

- What is the most common reason for crashes?

- How many people survived the crashes?

- In which country did most plane crashes occur?

- Which company has the highest number of plane crashes?

Result

Tableau Public - pro

File Data Worksheet Dashboard Story Analysis Format Server Window Help

Story Layout

New story point

Blank Duplicate

1986

1990

1967

1988

45

384

Bombay -
Bangalore

Bombay -
Cairo

Bombay -
Ahmedabad

Aboard

Locations Based on Number of ACCIDENTS IN ACCIDENTS IN

2

DASHBOARD

Sheet 4

J

3

5

NUMBER OF ACCIDENTS IN B...

Route and Date Year. Color shows sum of Aboard. Size shows sum of Aboard. The marks are labeled by Route and Date Year. The view is filtered on Route, which keeps 8 of 3,245 members.

A Drag to add text



Show title

Size

Story (1016 x 964)

Route and Date Year. Color shows sum of Aboard. Size shows sum of Aboard. The marks are labeled by Route and Date Year. The view is filtered on Route, which keeps 8 of 3,245 members.

Data Source

2 DASHBOARD

sheet 4 J 3 5 NUMBER OF ACCIDENTS IN B...

Number of accidents in a year 1...

Dashboard 2

Sheet 8

Sheet 9

Sheet 10

4 4

5 5

6 6

7 7

8 8

35°C
Haze

Search



ENG

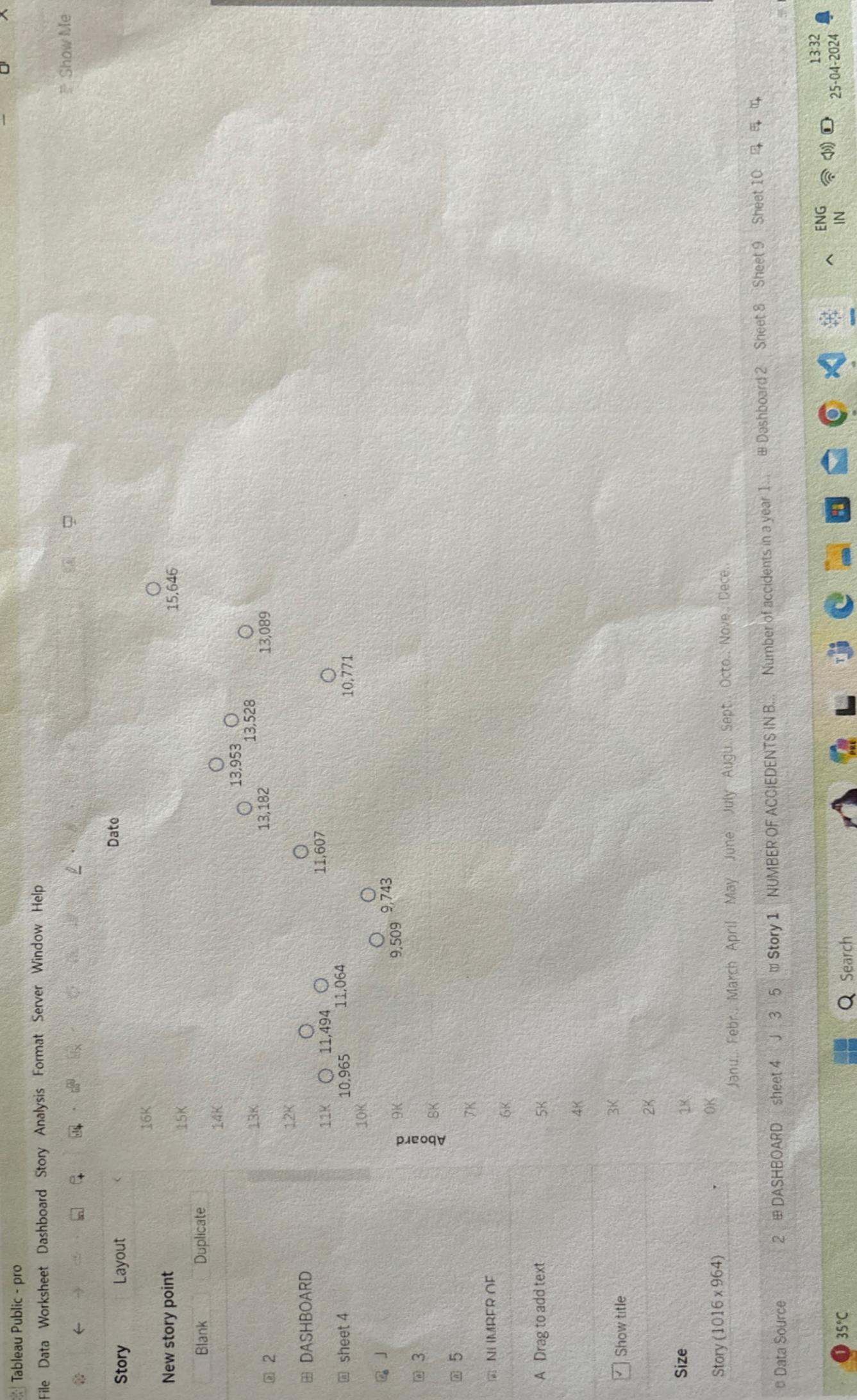
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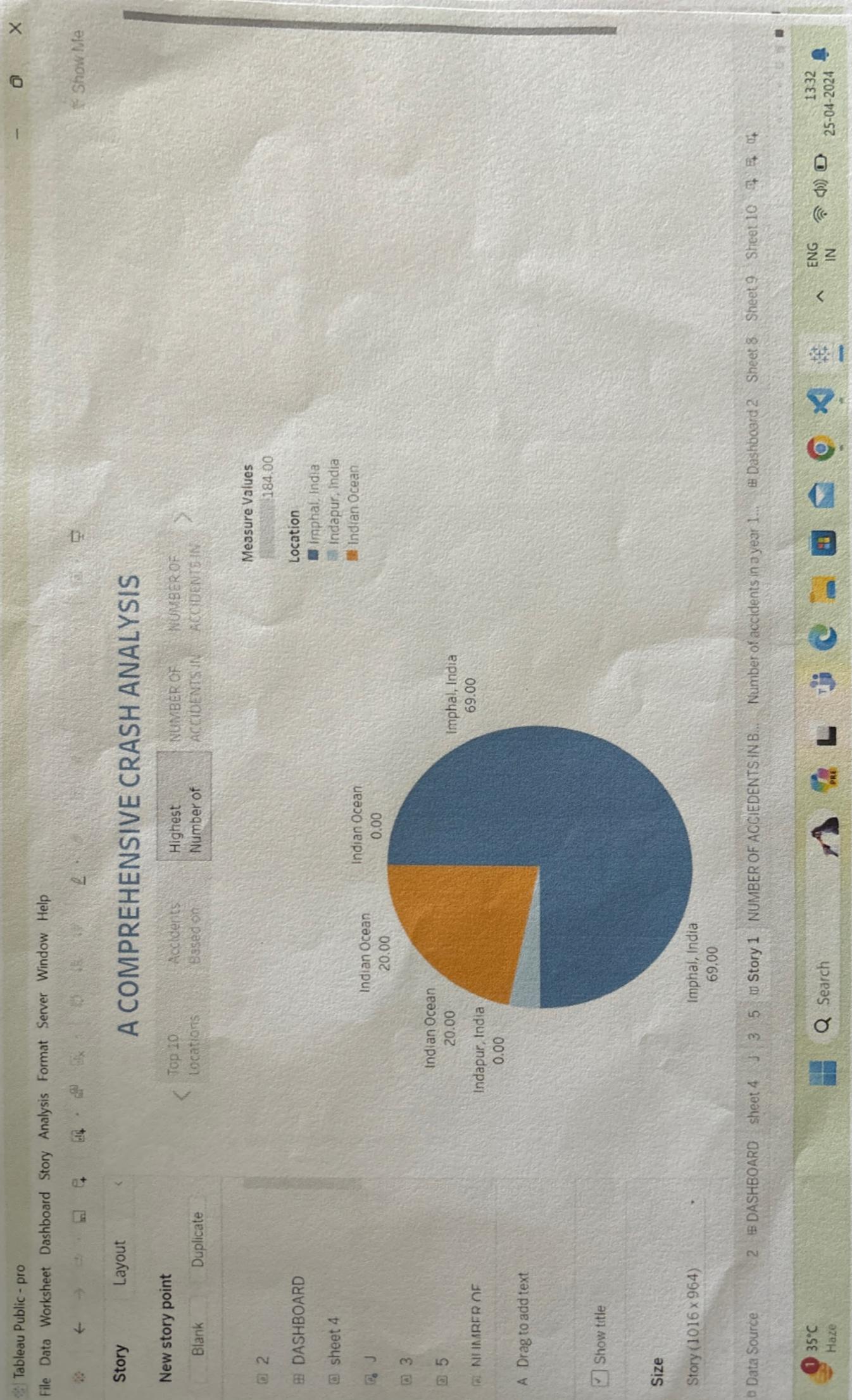
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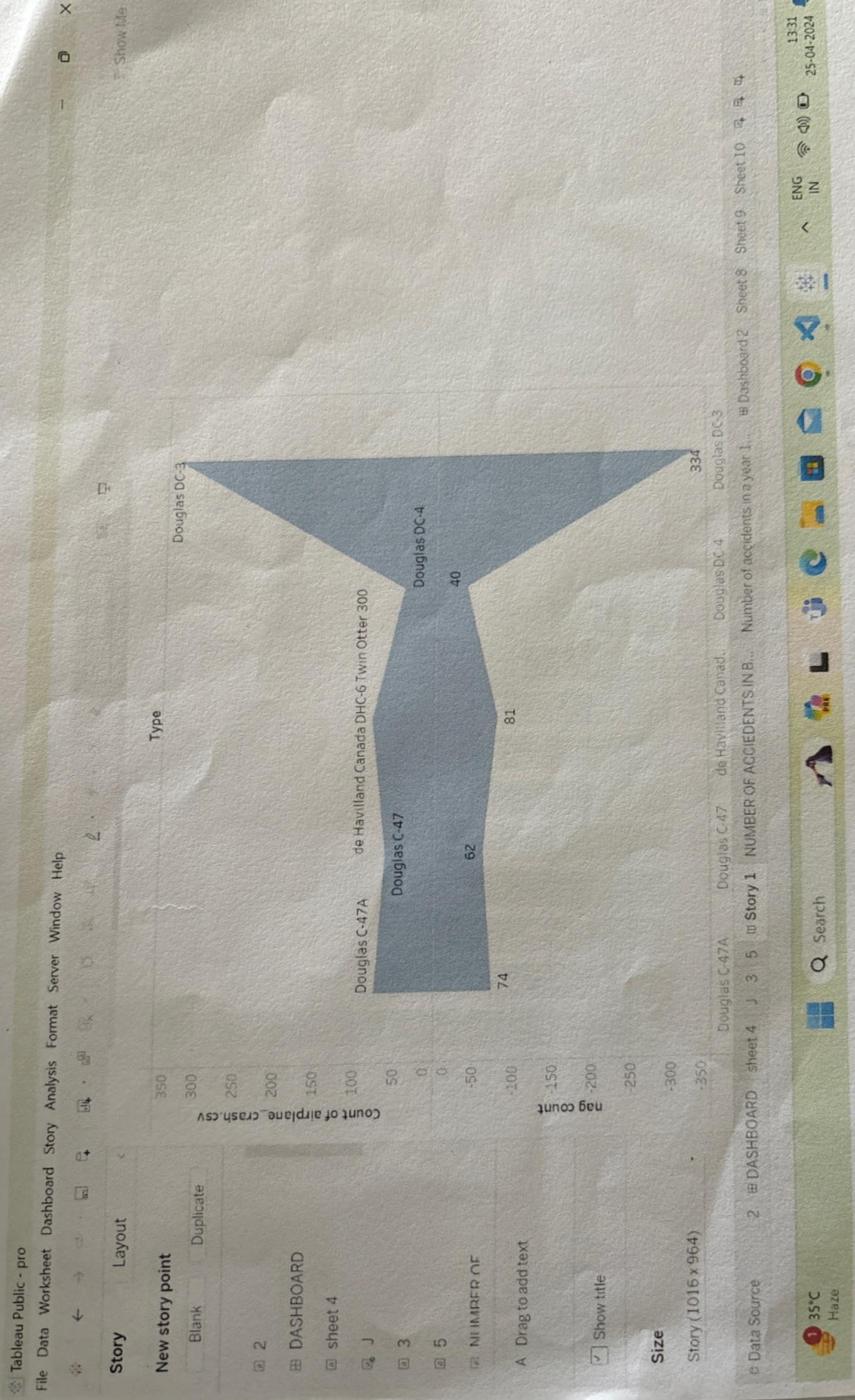
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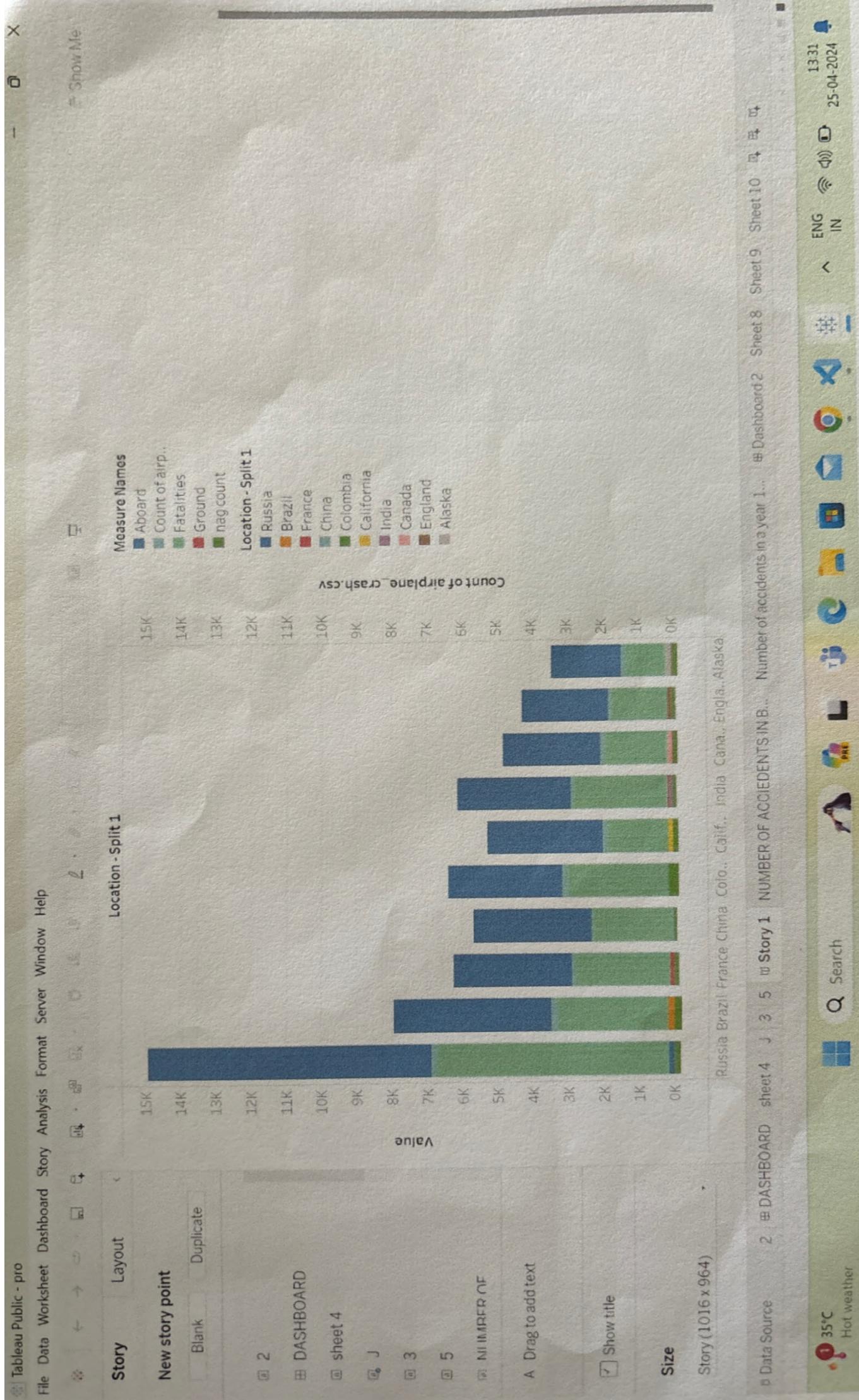
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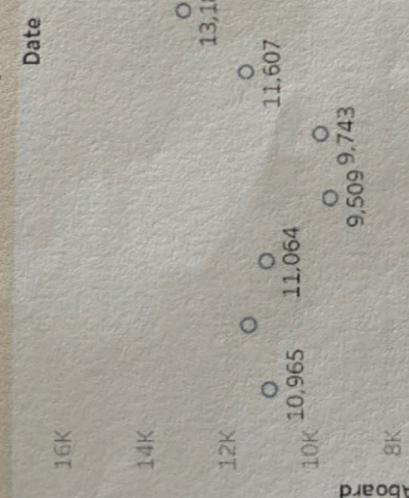
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Dashboard Layout
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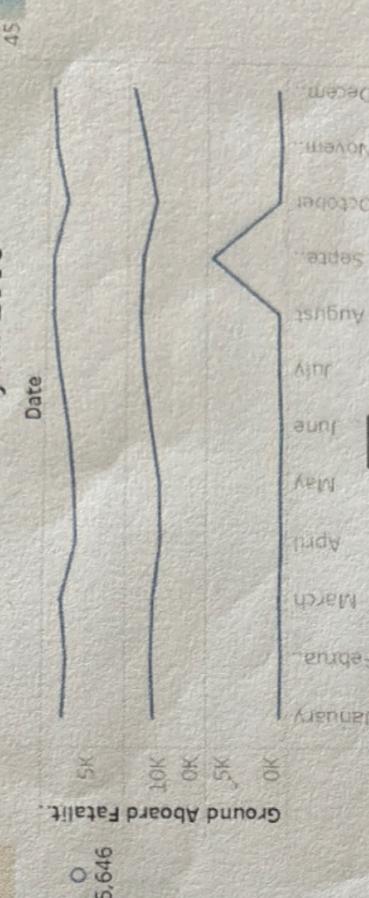
Show Me

AIRPLANE CRASH ANALYSIS

Number of accidents in a year 1999



Number of accidents In The year 2000



Number of Accidents In Bombay



Number of ACCIDENTS IN B...



Show dashboard title

Data Source

2 DASHBOARD sheet 4 J 3 5 Story 1 NUMBER OF ACCIDENTS IN B...

8 marks 1 row by 1 column SUM(Aboard): 1,212

35°C Hot weather

Dashboard 2 Sheet 8 Sheet 9 Sheet 10 Sheet 11

Search

Floating

Tiled

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Horizontal Container

Extension

Data Story

Device Preview

Standard

Layout

Dashboard

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Data

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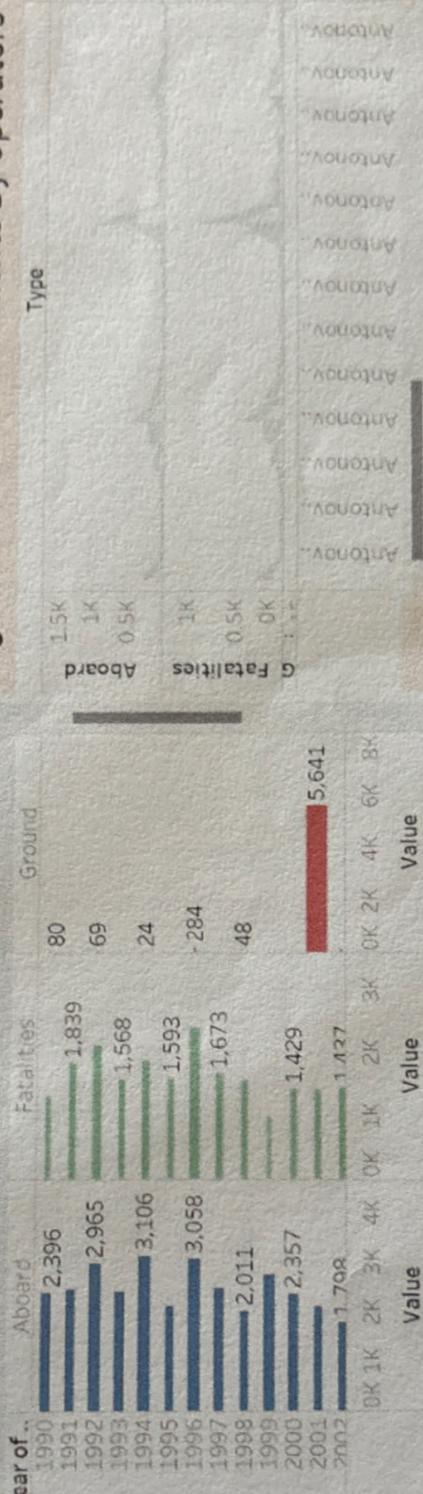
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AIRPLANE CRASH ANALYSIS

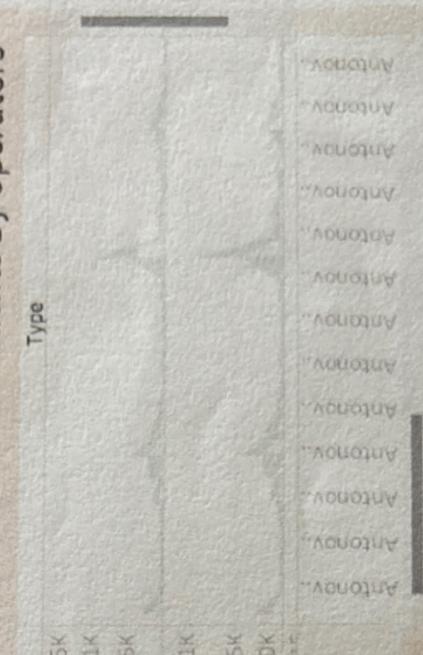
Total Number Of Accidents



Comparing Aboard vs Fatalities vs Ground



Highest Number Of Accidents



Highest Number Of Accidents By Operators

