PROJECT REPORT

1.INTRODUCTION

1.1 OVERVIEW

Data Exploration:

Tableau allows you to dive deep into aviation data, such as flight routes, passenger numbers, airports, and more. This enables you to explore patterns, trends, and anomalies in the air transportation network.

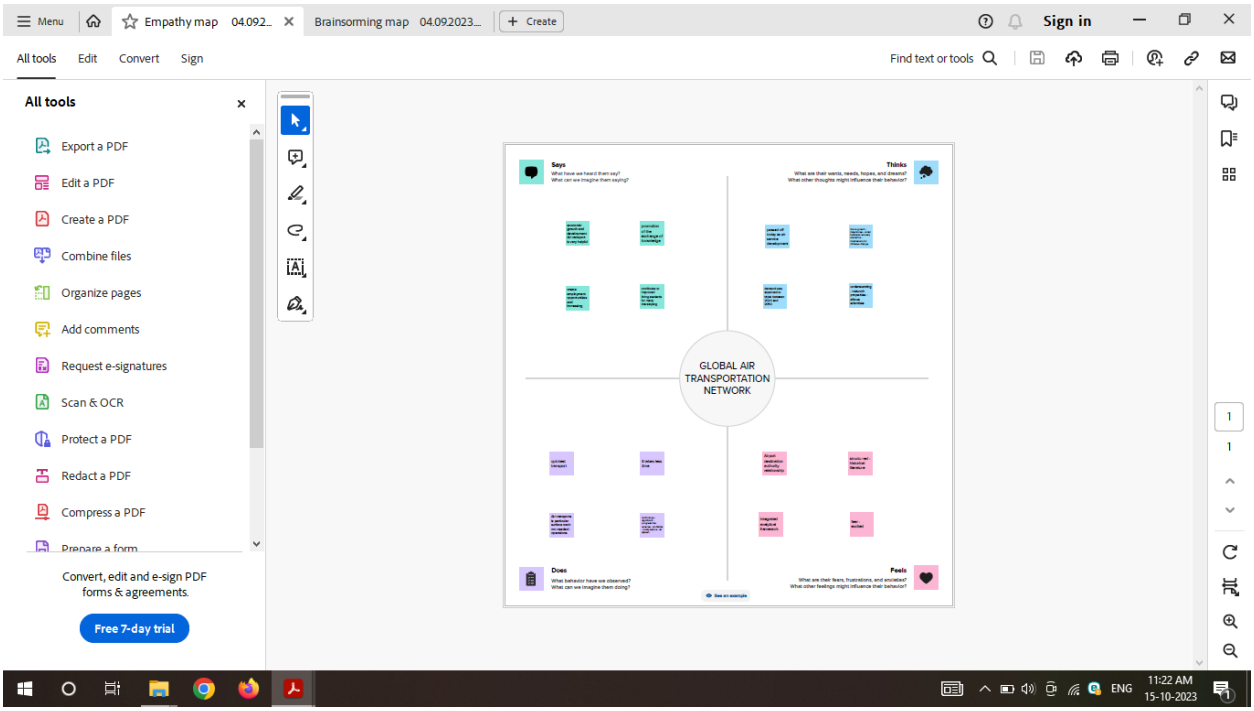
1.2 PURPOSE

Data Visualization:

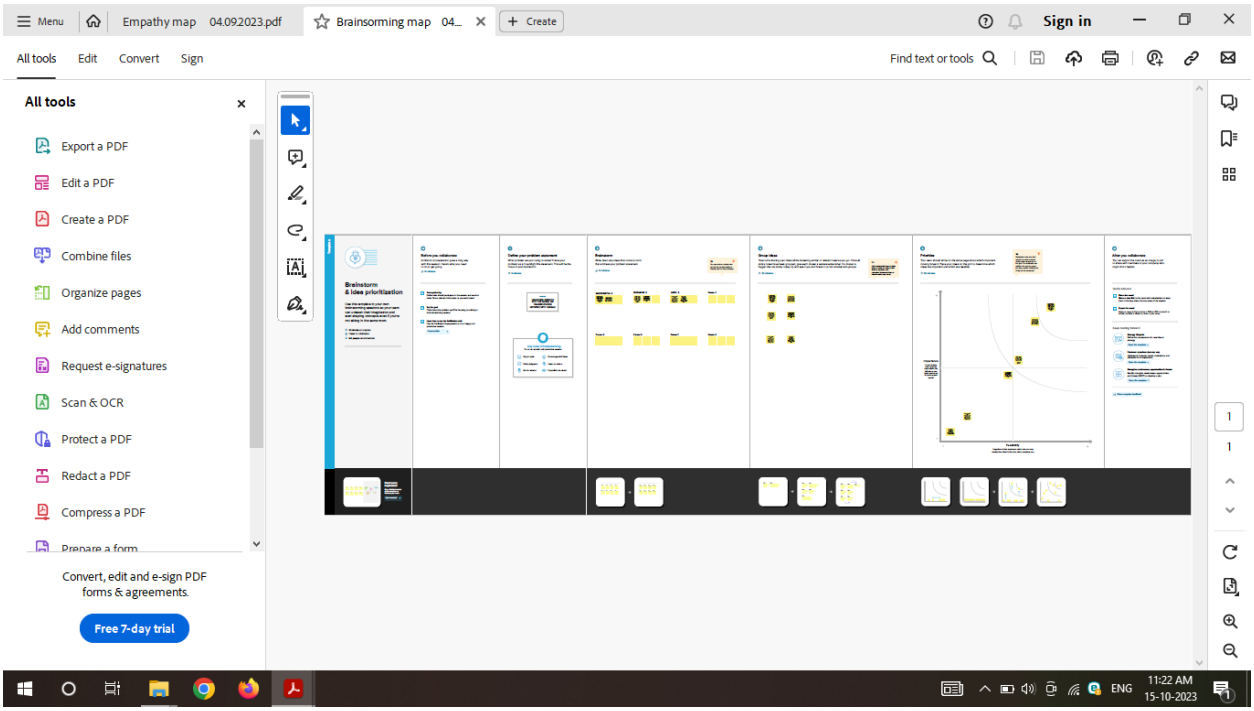
One of the primary purposes is to leverage Tableau's data visualization capabilities to represent the extensive data associated with the air transportation network in an understandable and insightful manner. By creating interactive and visually appealing dashboards, we can make complex information accessible to a wide range of stakeholders, from industry professionals to policymakers and the general public.

2.PROBLEM DEFINITION & DESIGN THINKING

2.1 EMPATHY MAP



2.2 IDEATION & BRAINSTORM MAP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Export a PDF
Edit a PDF
Create a PDF
Combine files
Organize pages
Add comments
Request e-signatures
Scan & OCR
Protect a PDF
Redact a PDF
Compress a PDF
Prepare a form
Convert, edit and e-sign PDF forms & agreements.
Free 7-day trial
Brainstorm & Idea prioritization
ENG
11:22 AM
15-10-2023

3. RESULT

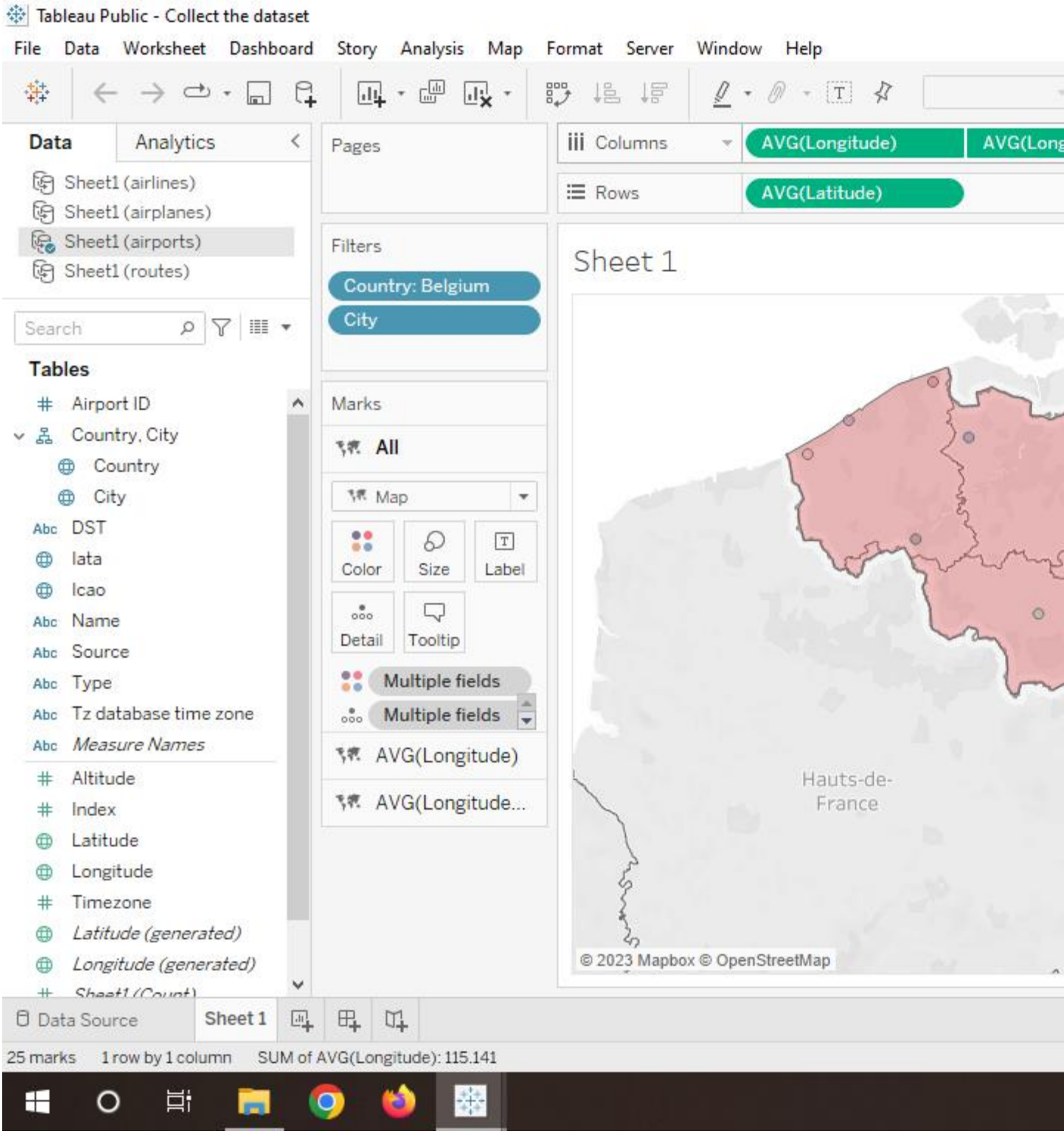
Tableau Public - Collect the dataset
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Data Analytics
Sheet1 (airlines)
Sheet1 (airplanes)
Sheet1 (airports)
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Hauts-de-France
© 2023 Mapbox © OpenStreetMap
Data Source
Sheet 1
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1 row by 1 column
SUM of AVG(Longitude): 115.141

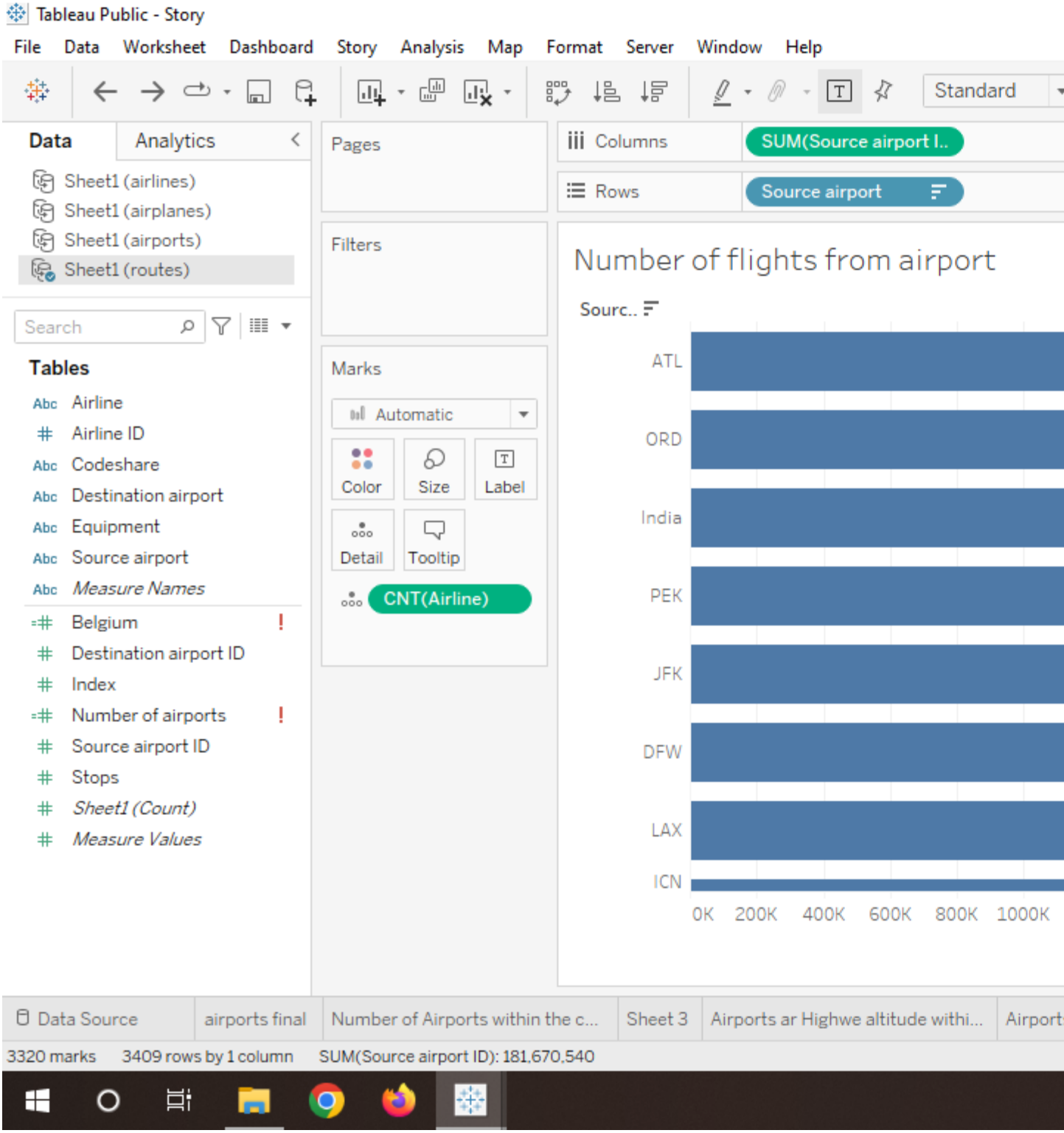
Tableau Public - Story
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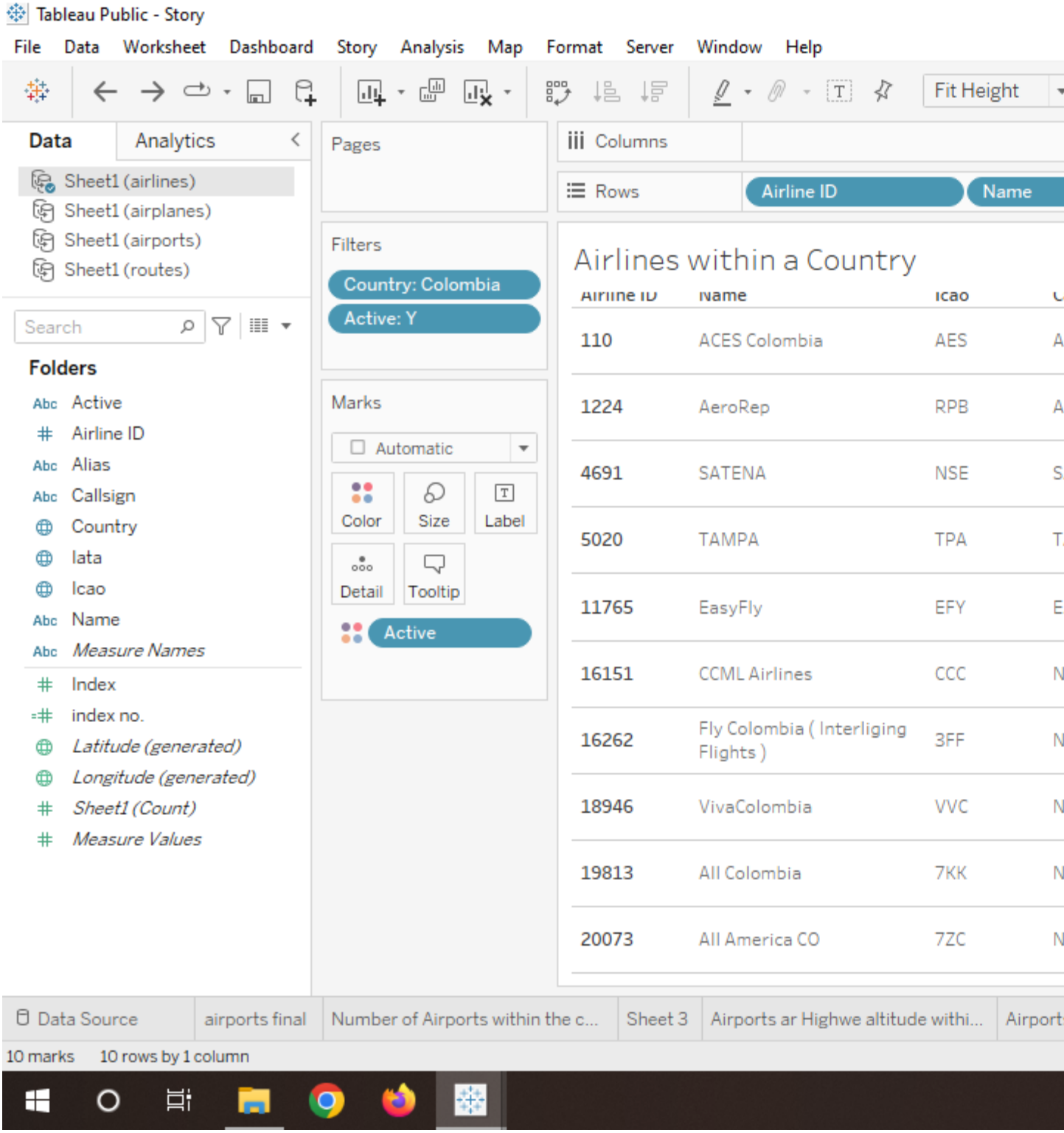
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Airlines within a Country
Airline ID Name Icao
110 ACES Colombia AES
1224 AeroRep RPB
4691 SATENA NSE
5020 TAMPA TPA
11765 EasyFly EFY
16151 CCML Airlines CCC
16262 Fly Colombia (Interliging Flights) 3FF
18946 VivaColombia VVC
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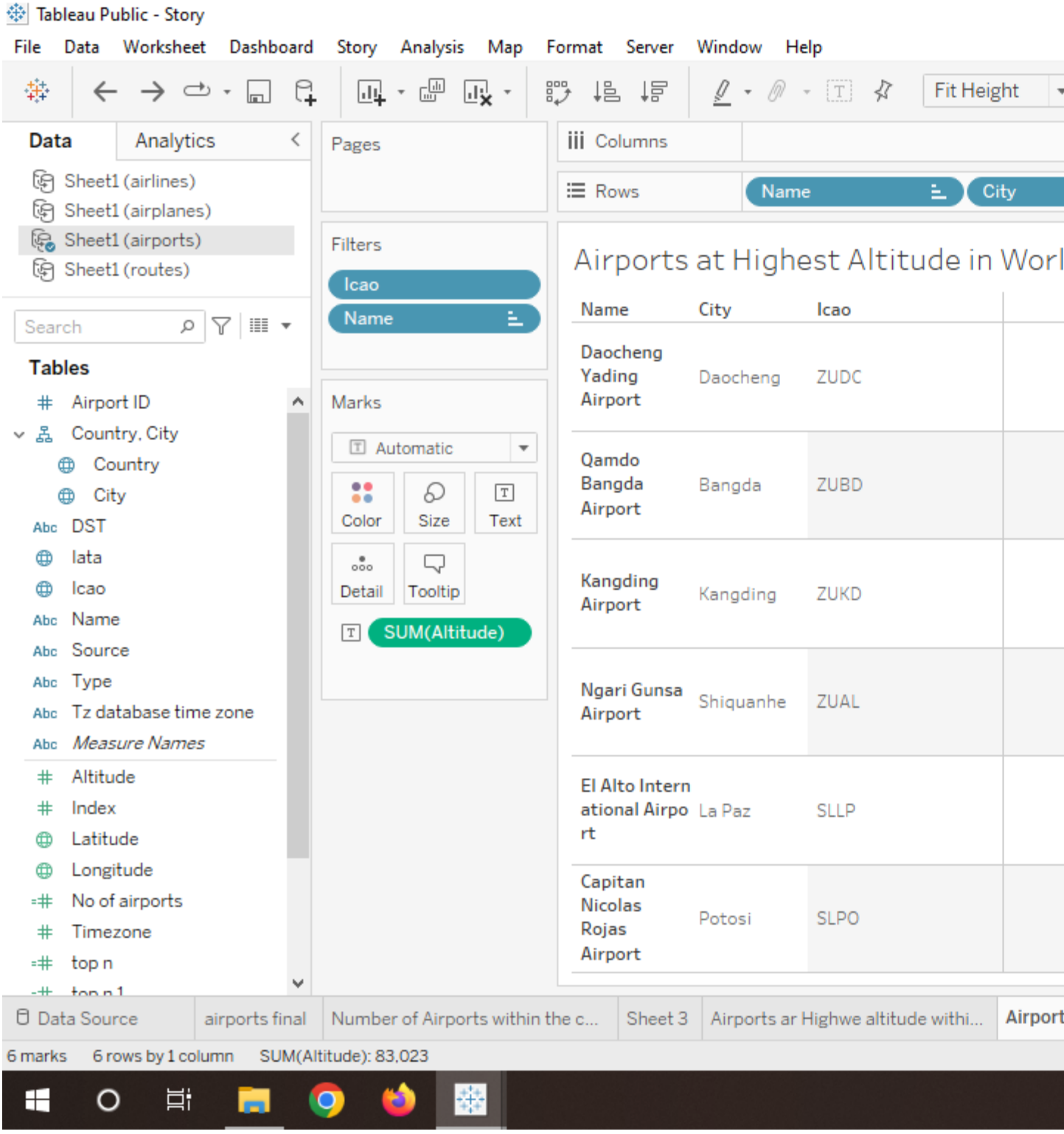
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SUM(Altitude)
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Name City Icao
Daocheng Yading Airport Daocheng ZUDC
Qamdo Bangda Airport Bangda ZUBD
Kangding Airport Kangding ZUKD
Ngari Gunsa Airport Shiquanhe ZUAL
El Alto International Airport La Paz SLLP
Capitan Nicolas Rojas Airport Potosi SLPO
Data Source
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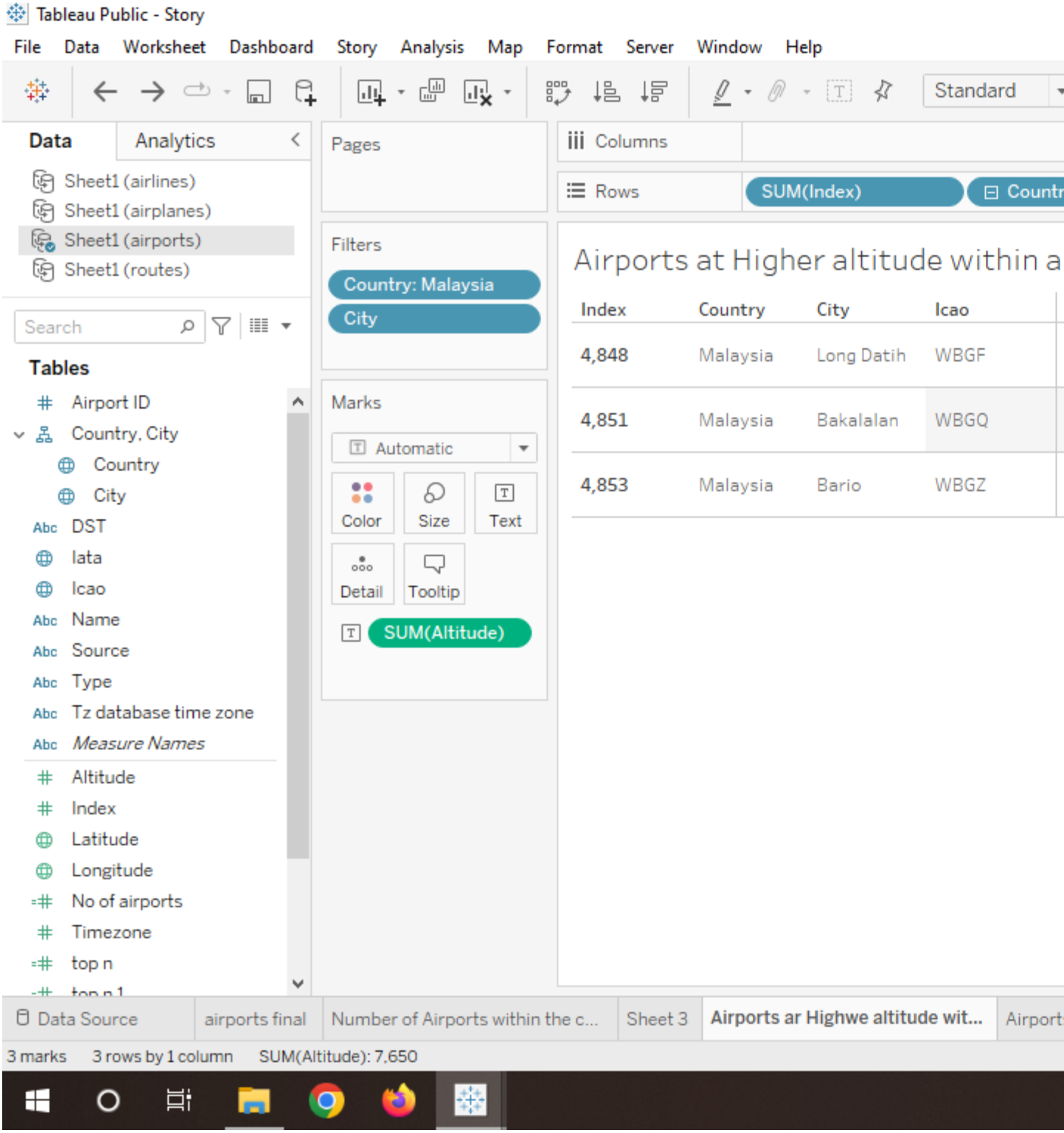
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4,851 Malaysia Bakalalan WBGQ
4,853 Malaysia Bario WBGZ
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3 marks
3 rows by 1 column
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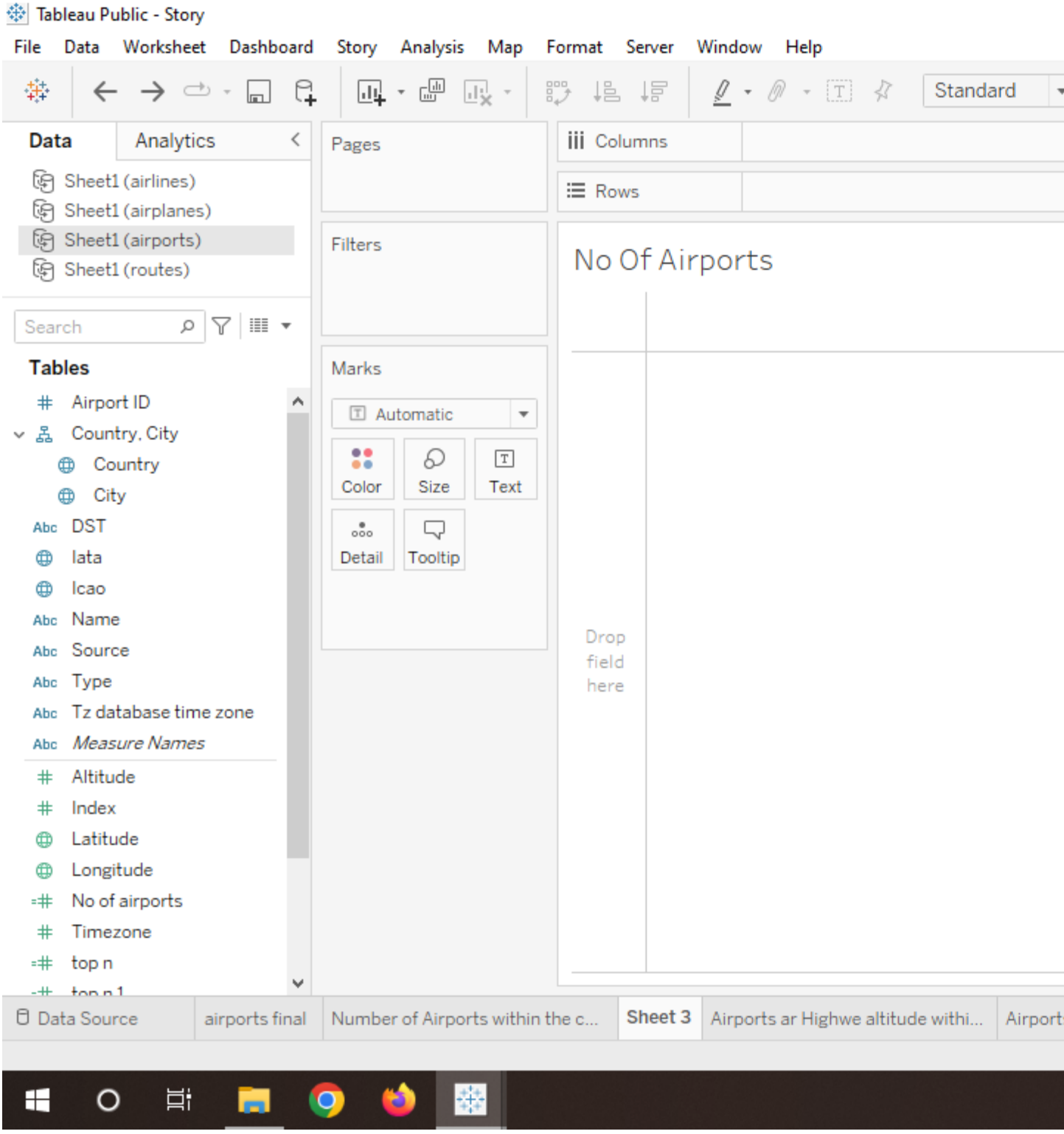
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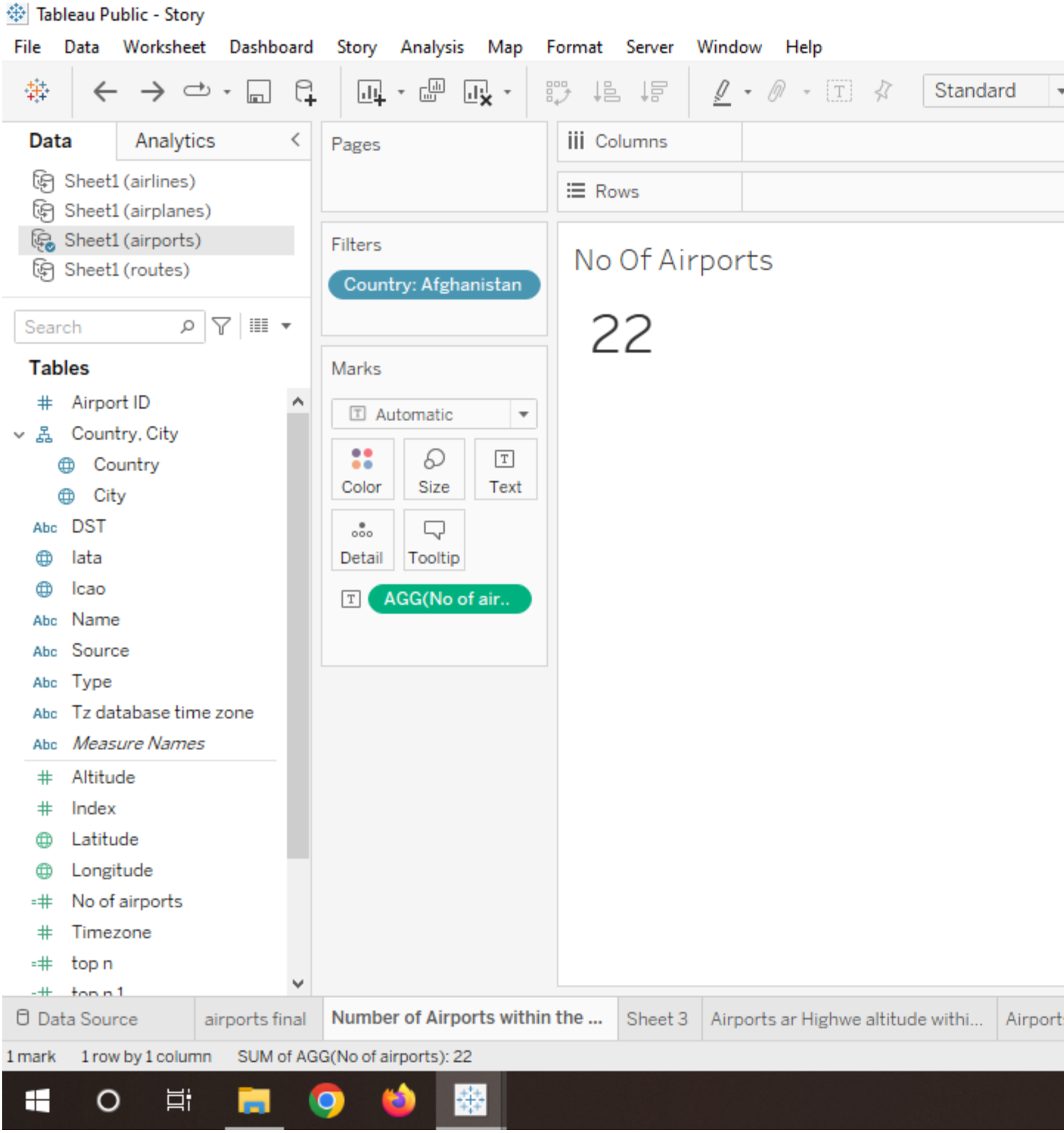
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1 mark
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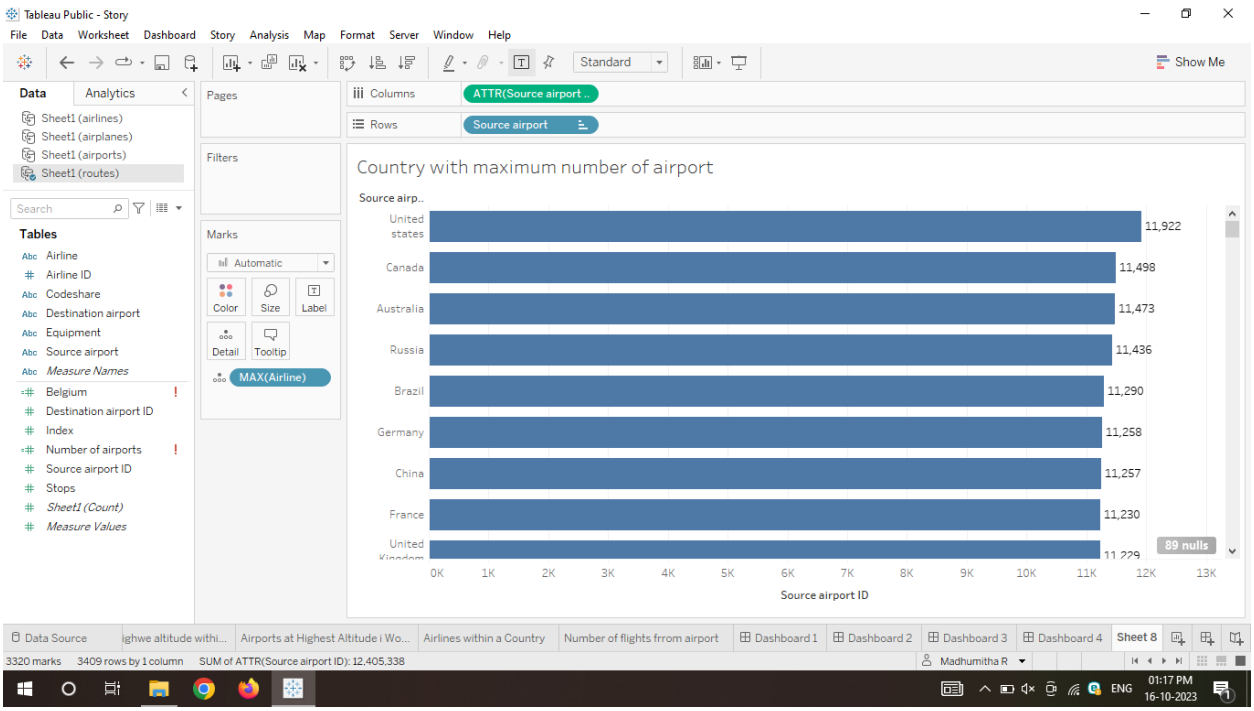
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Australia
Russia
Brazil
Germany
China
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Airlines within a Country
Number of flights frrom airport
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Dashboard 2
Dashboard 3
Dashboard 4
Sheet 8
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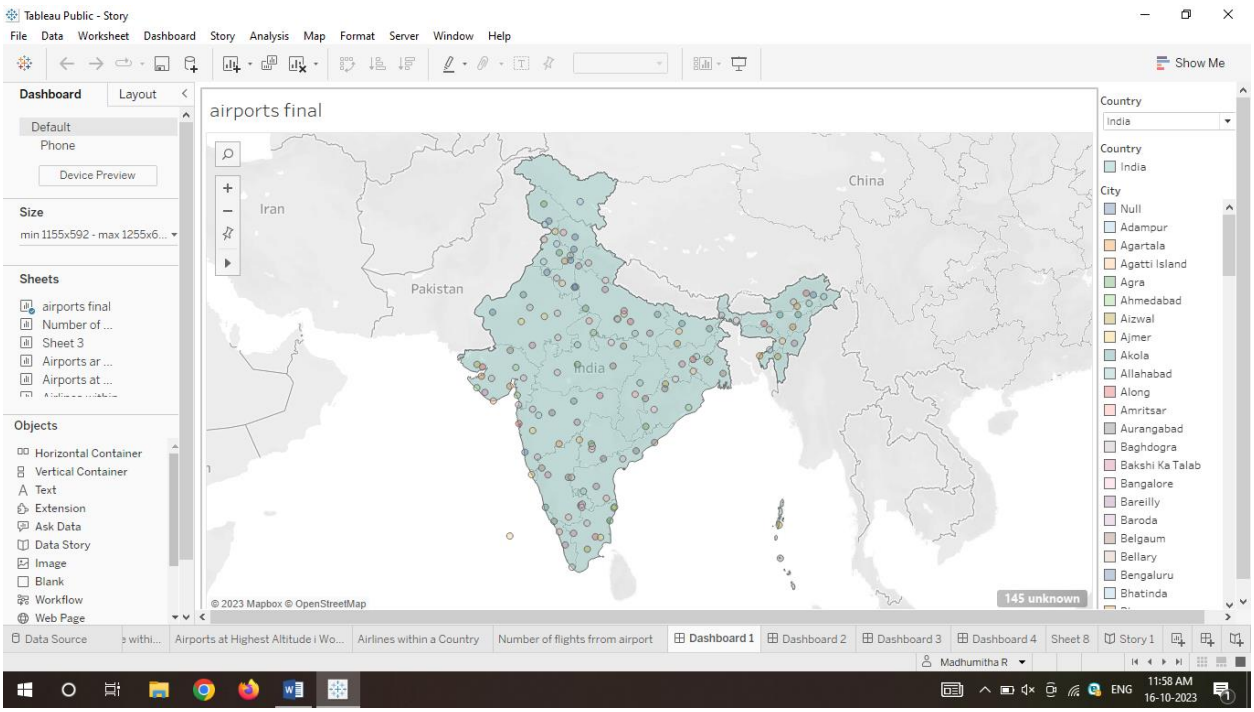
3409 rows by 1 column
SUM of ATTR(Source airport ID): 12,405,338
Madhumitha R
ENG
01:17 PM
16-10-2023

DASHBOARD: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© 2023 Mapbox © OpenStreetMap
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Aizwal
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Bakshi Ka Talab
Bangalore
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Airports at Highest Altitude i Wo...
Airlines within a Country
Number of flights frrom airport
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Dashboard 3
Dashboard 4
Sheet 8
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ENG
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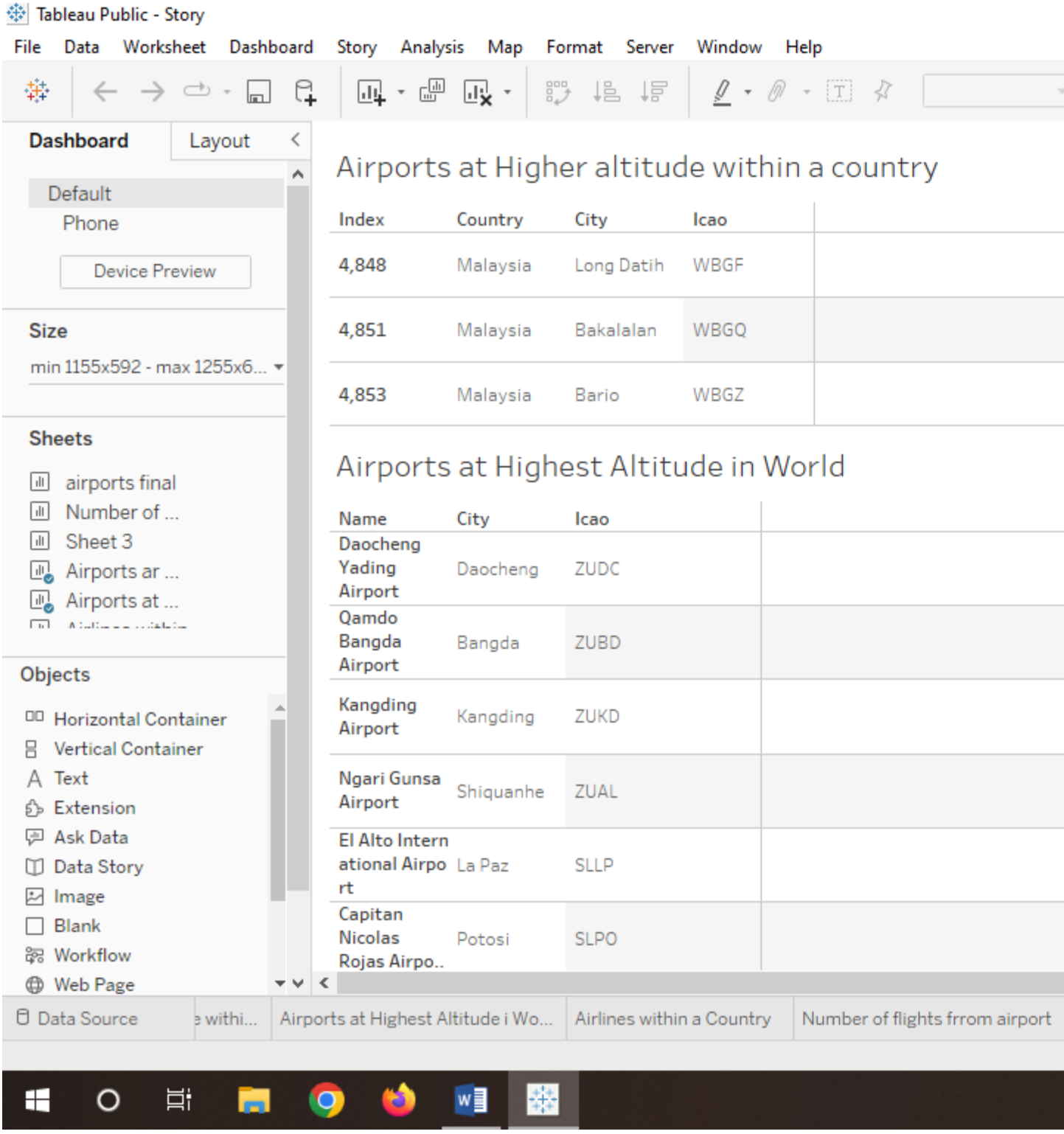
16-10-2023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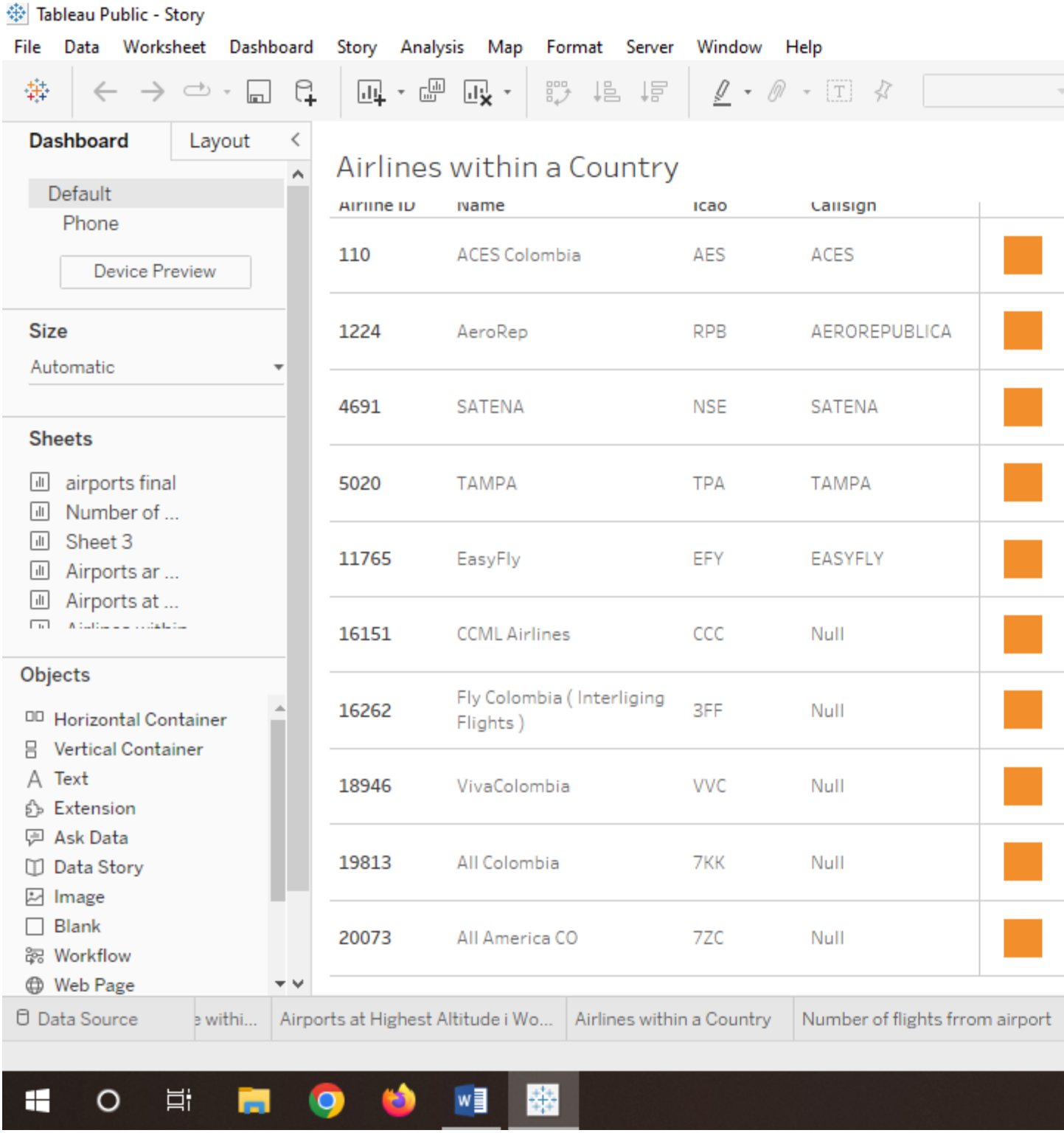
Airports at Higher altitude within a country
Index Country City Icao
4,848 Malaysia Long Datih WBGF
4,851 Malaysia Bakalalan WBGQ
4,853 Malaysia Bario WBGZ
Airports at Highest Altitude in World
Name City Icao
Daocheng Yading Airport Daocheng ZUDC
Qamdo Bangda Airport Bangda ZUBD
Kangding Airport Kangding ZUKD
Ngari Gunsa Airport Shiquanhe ZUAL
El Alto International Airport La Paz SLLP
Capitan Nicolas Rojas Airpo.. Potosi SLPO
Data Source
Airports at Highest Altitude i Wo...
Airlines within a Country
Number of flights frrom airport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Data Story
Image
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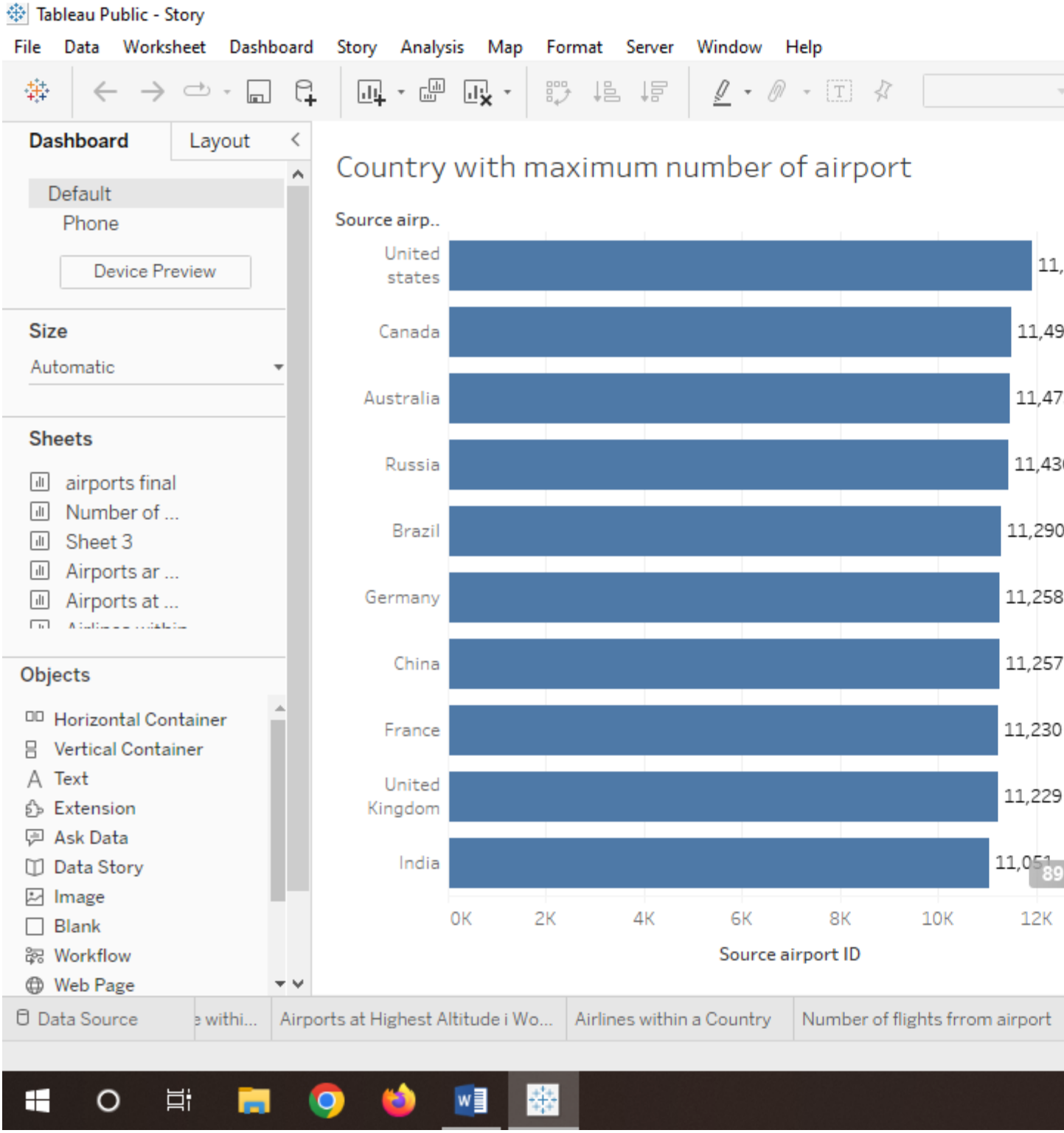
Workflow
Web Page
Airlines within a Country
Airline ID Name Icao Callsign
110 ACES Colombia AES ACES
1224 AeroRep RPB AEROREPUBLICA
4691 SATENA NSE SATENA
5020 TAMPA TPA TAMPA
11765 EasyFly EFY EASYFLY
16151 CCML Airlines CCC Null
16262 Fly Colombia (Interliging Flights) 3FF Null
18946 VivaColombia VVC Null
19813 All Colombia 7KK Null
20073 All America CO 7ZC Null
Data Source
Airports at Highest Altitude i Wo...
Airlines within a Country
Number of flights frrom airport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Workflow
Web Page
Country with maximum number of airport
Source airp..
United states
Canada
Australia
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Germany
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France
United Kingdom
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11,49
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Data Source
Airports at Highest Altitude i Wo...
Airlines within a Country
Number of flights frrom airport

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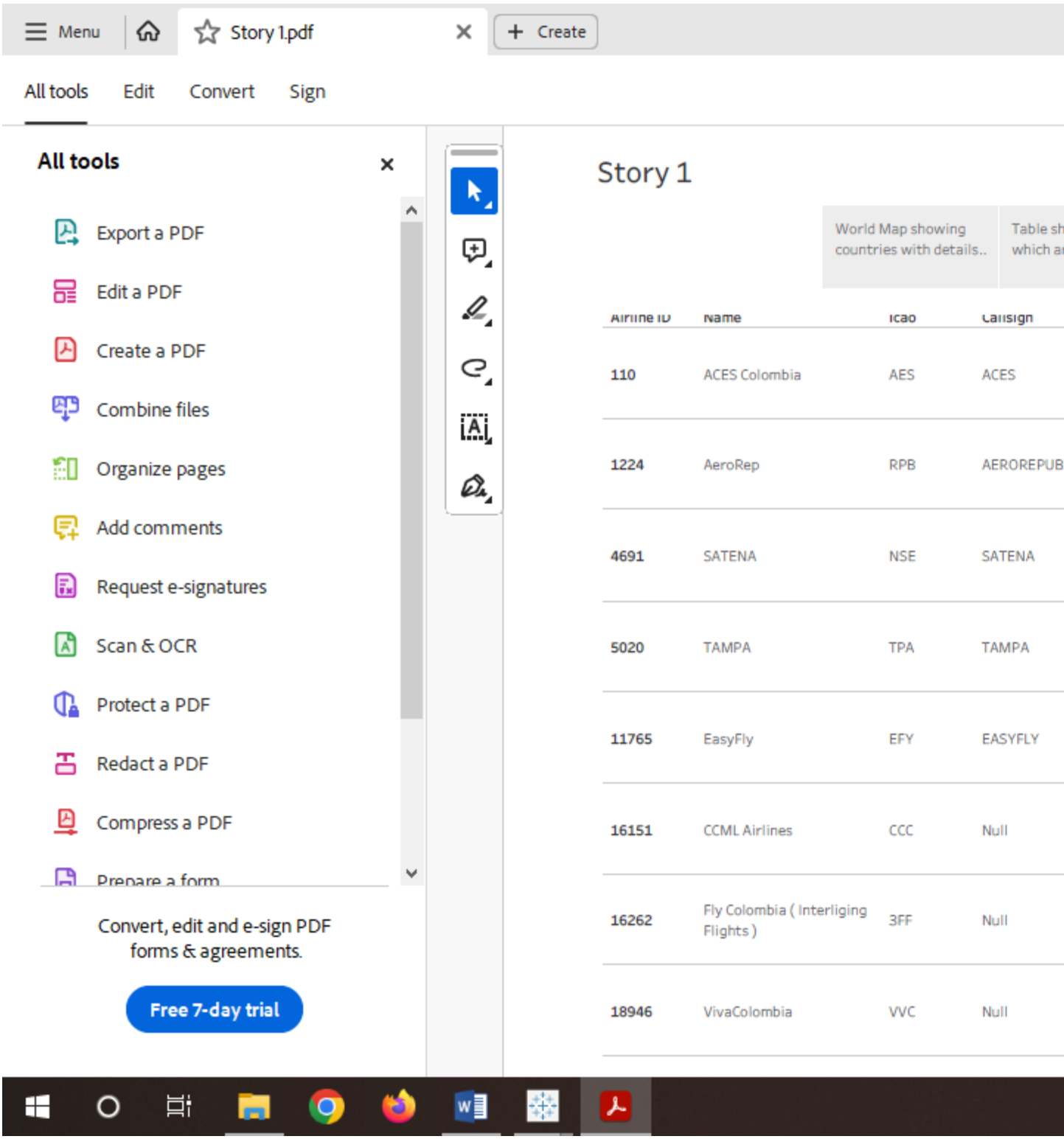
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Story 1.pdf
Create
All tools
Edit
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All tools
Export a PDF
Edit a PDF
Create a PDF
Combine files
Organize pages
Add comments
Request e-signatures
Scan & OCR
Protect a PDF
Redact a PDF
Compress a PDF
Prepare a form
Convert, edit and e-sign PDF forms & agreements.
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Story 1
World Map showing countries with details..
Airline ID
Name
ICAO
Callsign
110
ACES Colombia
AES
ACES
1224
AeroRep
RPB
AEROREPUB
4691
SATENA
NSE
SATENA
5020
TAMPA
TPA
TAMPA
11765
EasyFly
EFY
EASYFLY
16151
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Fly Colombia (Interliging Flights)
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18946
VivaColombia
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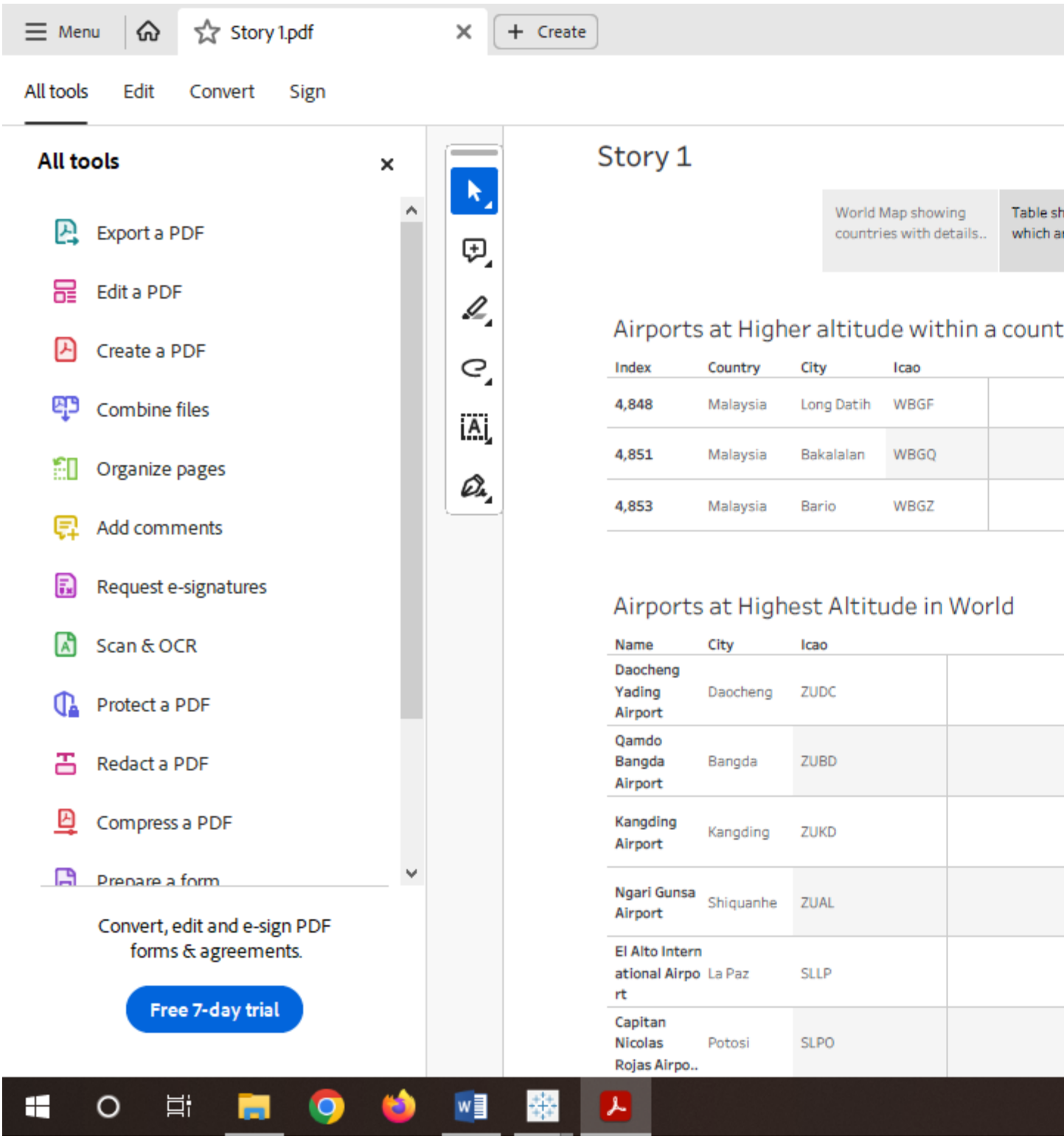
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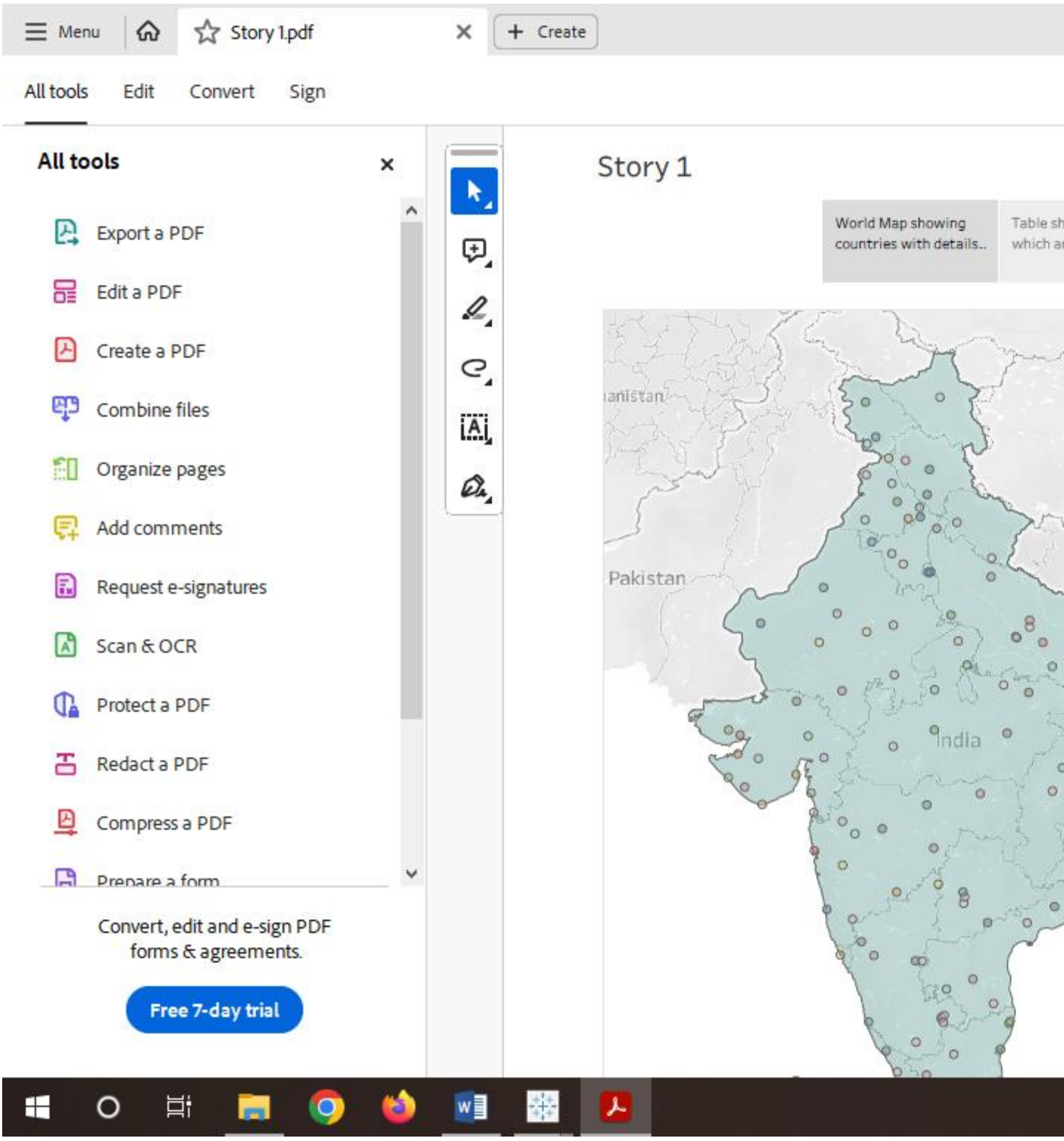
Protect a PDF
Redact a PDF
Compress a PDF
Prepare a form
Convert, edit and e-sign PDF forms & agreements.
Free 7-day trial
Story 1
World Map showing countries with details..
Airports at Higher altitude within a count
Index Country City Icao
4,848 Malaysia Long Datih WBGF
4,851 Malaysia Bakalalan WBGQ
4,853 Malaysia Bario WBGZ
Airports at Highest Altitude in World
Name City Icao
Daocheng Yading Airport Daocheng ZUDC
Qamdo Bangda Airport Bangda ZUBD
Kangding Airport Kangding ZUKD
Ngari Gunsa Airport Shiquanhe ZUAL
El Alto International Airport La Paz SLLP
Capitan Nicolas Rojas Airpo.. Potosi SLPO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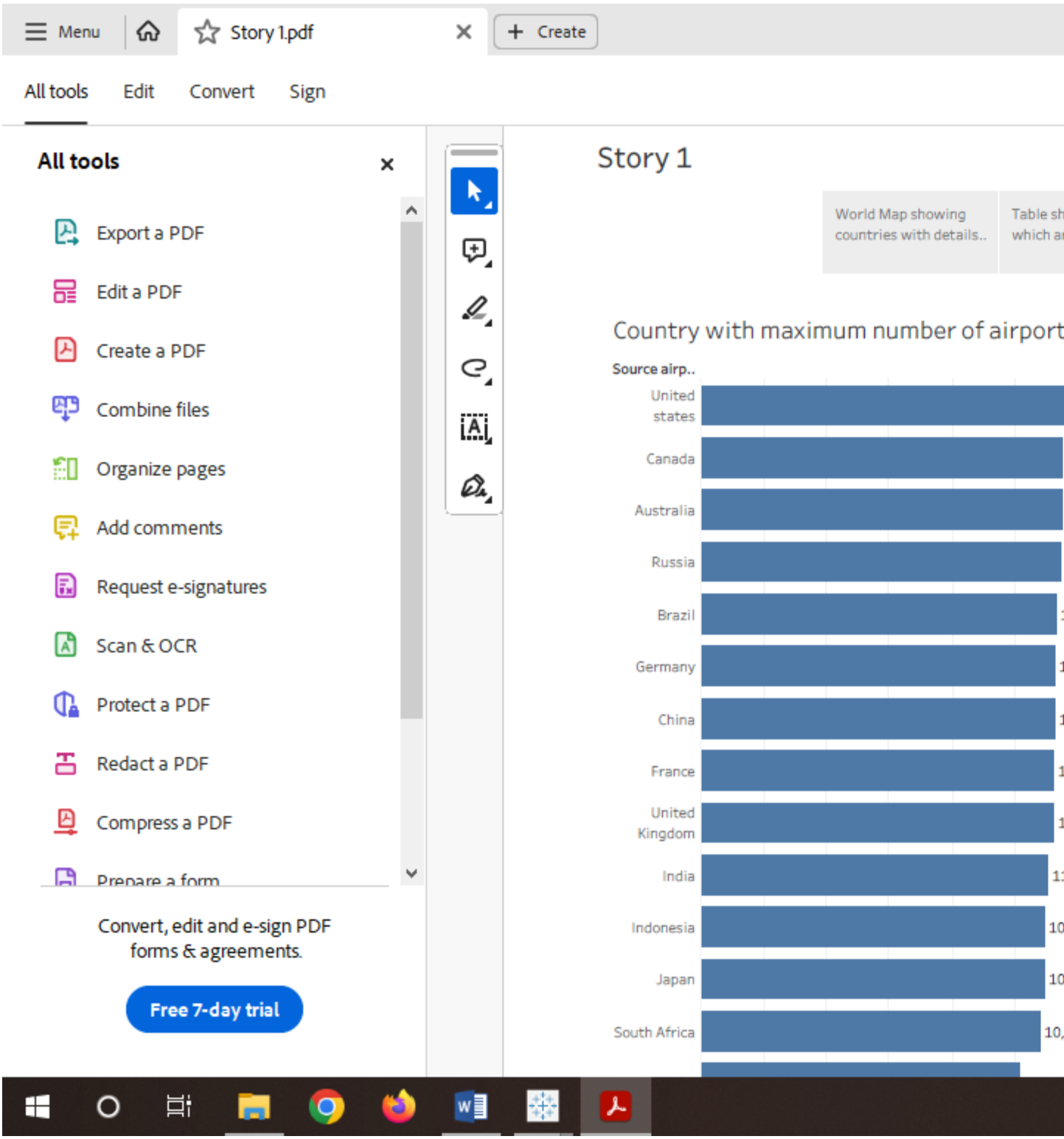
Request e-signatures
Scan & OCR
Protect a PDF
Redact a PDF
Compress a PDF
Prepare a form
Convert, edit and e-sign PDF forms & agreements.
Free 7-day trial
Story 1
World Map showing countries with details..
Pakistan
India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Organize pages
Add comments
Request e-signatures
Scan & OCR
Protect a PDF
Redact a PDF
Compress a PDF
Prepare a form
Convert, edit and e-sign PDF forms & agreements.
Free 7-day trial
Story 1
World Map showing countries with details..
Country with maximum number of airport
Source airp..
United states
Canada
Australia
Russia
Brazil
Germany
China
France
United Kingdom
India
Indonesia
Japan
South Africa

4.ADVANTAGE AND DISADVANTAGE

ADVANTAGE: -

Real-time Analytics:

Tableau can be set up to provide real-time analytics, which is crucial in monitoring the dynamic air transportation network. This enables airlines, airports, and aviation authorities to make quick decisions based on the most recent data.

Geospatial Analysis:

Tableau's mapping capabilities make it ideal for geospatial analysis of flight routes, airport locations, and regional traffic patterns. It can reveal insights into connectivity, congestion, and travel demand.

DISADVANTAGE: -

COST:

Tableau licenses can be expensive, which may pose a barrier to smaller organizations or individuals interested in using it for analysis.

Learning Curve:

Tableau has a learning curve, especially for users new to data visualization and analysis tools. It may take time to become proficient in creating effective visualizations.

5.APPLICATIONS: -

Flight Route Analysis:

Tableau can be used to visualize flight routes, their frequency, and passenger demand. This analysis can help airlines identify profitable routes and make informed decisions about route expansion or reduction

Airport Performance :

Analyze airport data, including passenger traffic, delays, and on-time performance. This can aid airport authorities in optimizing operations, improving passenger experience, and reducing congestion.

6.CONCLUSION:

In conclusion, Tableau empowers us to dive deep into the global air transportation network, revealing patterns, trends, and anomalies that might otherwise remain hidden. From optimizing flight routes to improving airport operations and enhancing passenger experiences, Tableau's capabilities are invaluable for stakeholders in the aviation industry. By harnessing the power of data and visualization, we can make informed decisions that not only benefit the industry but also contribute to a safer, more efficient, and environmentally sustainable global air transportation network.

7. FUTURE SCOPE:

Predictive Analytics:

Use historical data to predict future trends, enabling airlilnes to plan better.

Environmental Impact Analysis:

Analyze emissions data to support sustainability efforts.

8.APPENDIX

A. SOURCE CODE

NM2023TMID03366