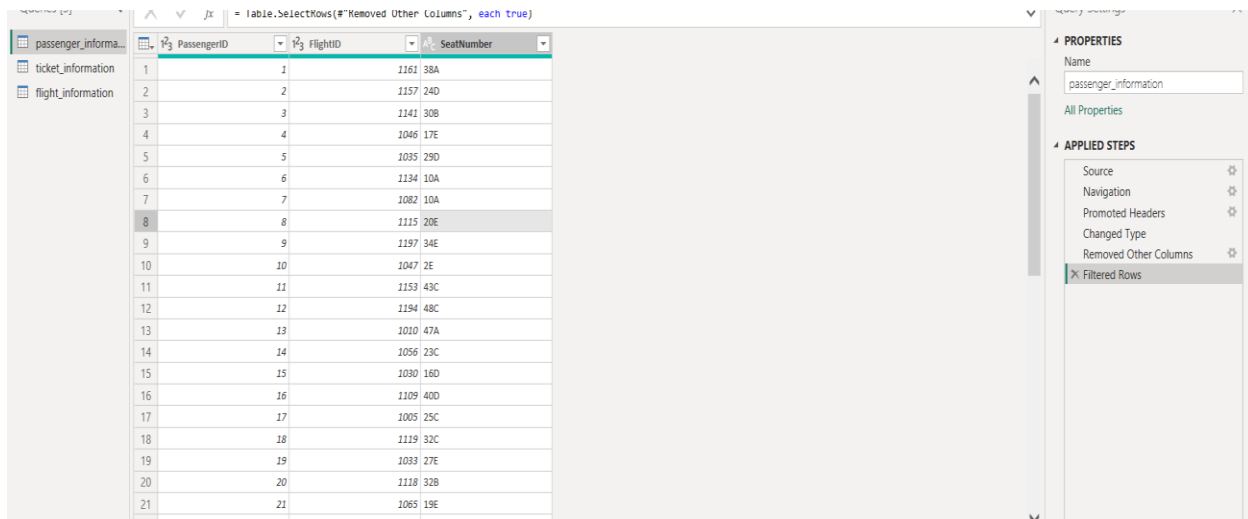


PowerBI Final Project

Task-1

1. Data Preparation and Cleaning

- Extract and transform data in Power Query.
- Cleandata: remove duplicates, handle missing values, and format columns.
- Deliverables: Screenshot of Power Query Editor showing cleaned data.

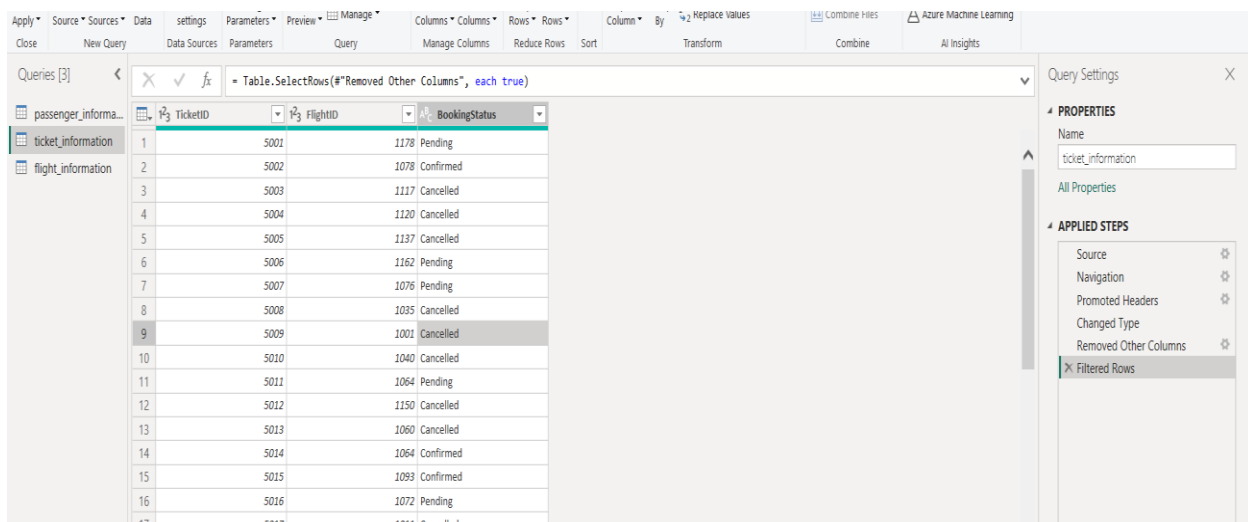


passenger_information

PassengerID	FlightID	SeatNumber
1	1	1161 38A
2	2	1157 24D
3	3	1141 30B
4	4	1046 17E
5	5	1035 29D
6	6	1134 10A
7	7	1082 10A
8	8	1115 20E
9	9	1197 34E
10	10	1047 2E
11	11	1153 43C
12	12	1194 48C
13	13	1010 47A
14	14	1056 23C
15	15	1030 16D
16	16	1109 40D
17	17	1005 25C
18	18	1119 32C
19	19	1033 27E
20	20	1118 32B
21	21	1065 19E

APPLIED STEPS

- Source
- Navigation
- Promoted Headers
- Changed Type
- Removed Other Columns
- Filtered Rows



ticket_information

TicketID	FlightID	BookingStatus
1	5001	1178 Pending
2	5002	1078 Confirmed
3	5003	1117 Cancelled
4	5004	1120 Cancelled
5	5005	1137 Cancelled
6	5006	1162 Pending
7	5007	1076 Pending
8	5008	1035 Cancelled
9	5009	1001 Cancelled
10	5010	1040 Cancelled
11	5011	1064 Pending
12	5012	1150 Cancelled
13	5013	1060 Cancelled
14	5014	1064 Confirmed
15	5015	1093 Confirmed
16	5016	1072 Pending
17	5017	1011 Cancelled

APPLIED STEPS

- Source
- Navigation
- Promoted Headers
- Changed Type
- Removed Other Columns
- Filtered Rows

Apply

Source

Sources

Data

Settings

Parameters

Preview

Columns

Columns

Rows

Rows

Column

By

Transform

Combine

All Insights

Close

New Query

Data Sources

Parameters

Query

Manage Columns

Reduce Rows

Sort

Transform

Combine

All Insights

Queries [3]

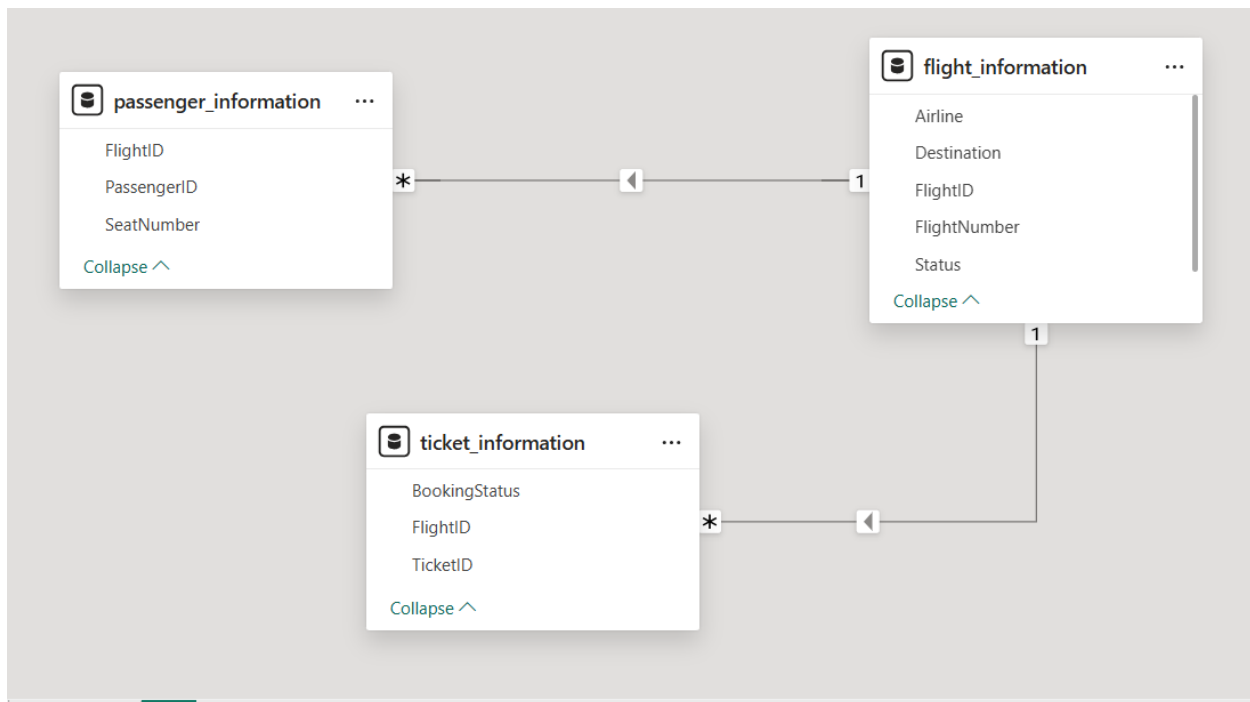
Steps:

- At the initial phase I transformed and loaded the data from “GetData” menu and then removed all the null columns from the datasets.
- Then I checked the data types and format for each column
- And then I clicked on the close&apply

Task-2

2. Data Modeling

- Create relationships between datasets (FlightID as the key).
- Understand cardinality and configure the model appropriately.
- Deliverables: Screenshot of the data model with relationships



Cardinality:

1. Flight Information and Ticket Information:

- **Cardinality: One-to-Many (1:*)**.
 - A **Flight** can have many **Tickets** (one flight, multiple tickets).
 - Each **Ticket** is linked to exactly one **Flight**.

2. Flight Information and Passenger Information:

- **Cardinality: One-to-Many (1:*)**.
 - A **Flight** can have many **Passengers** (one flight, multiple passengers).
 - Each **Passenger** is linked to exactly one **Flight**.

3. Ticket Information and Passenger Information:

- **Cardinality:** There isn't a direct relationship needed between **Ticket Information** and **Passenger Information**

Task-3

3. Enhanced Data Insights

- Add a conditional column to classify flights as "Best" or "To Be Improved" based on status.
- Use "Column from Examples" to extract the flight number from FlightNumber.
- Deliverables: Screenshot of the transformed data.

	A ₁ Status	A ₂ Destination	A ₃ Airline	A ₄ FlightNumber	P ₂ FlightID	ABC 123 Recommend_Status_of_flight
1	On Time	Houston	Airline D	FL1102	1001	Best
2	On Time	Chicago	Airline B	FL1435	1002	Best
3	Cancelled	New York	Airline A	FL1860	1003	To Be Improved
4	Delayed	Chicago	Airline C	FL1270	1004	To Be Improved
5	Delayed	New York	Airline C	FL1106	1005	To Be Improved
6	On Time	Phoenix	Airline A	FL1071	1006	Best
7	Cancelled	Los Angeles	Airline C	FL1700	1007	To Be Improved
8	Delayed	Los Angeles	Airline C	FL1020	1008	To Be Improved
9	Cancelled	Los Angeles	Airline A	FL1614	1009	To Be Improved
10	Cancelled	Chicago	Airline D	FL1121	1010	To Be Improved
11	On Time	Phoenix	Airline A	FL1466	1011	Best
12	Delayed	New York	Airline D	FL1214	1012	To Be Improved
13	On Time	Houston	Airline C	FL1330	1013	Best
14	Delayed	New York	Airline C	FL1458	1014	To Be Improved
15	Delayed	Houston	Airline C	FL1087	1015	To Be Improved
16	Delayed	New York	Airline B	FL1372	1016	To Be Improved
17	Delayed	Phoenix	Airline D	FL1099	1017	To Be Improved
18	Delayed	Houston	Airline B	FL1871	1018	To Be Improved
19	Cancelled	Chicago	Airline B	FL1663	1019	To Be Improved
20	On Time	New York	Airline A	FL1130	1020	Best
21	Cancelled	New York	Airline B	FL1661	1021	To Be Improved
22	Delayed	Houston	Airline A	FL1308	1022	To Be Improved
23	On Time	Chicago	Airline A	FL1769	1023	Best
24	Delayed	Chicago	Airline B	FL1343	1024	To Be Improved
25	On Time	Phoenix	Airline D	FL1491	1025	Best
26	Cancelled	Chicago	Airline D	FL1413	1026	To Be Improved
27	On Time	Chicago	Airline D	FL1805	1027	Best
28	On Time	Chicago	Airline D	FL1385	1028	Best

	A ₁ Destination	A ₂ Airline	A ₃ FlightNumber	P ₂ FlightID	ABC 123 Recommend_Status_of_flight	P ₂ flight number
1	Houston	Airline D	FL1102	1001	Best	1102
2	Chicago	Airline B	FL1435	1002	Best	1435
3	New York	Airline A	FL1860	1003	To Be Improved	1860
4	Chicago	Airline C	FL1270	1004	To Be Improved	1270
5	New York	Airline C	FL1106	1005	To Be Improved	1106
6	Phoenix	Airline A	FL1071	1006	Best	1071
7	Los Angeles	Airline C	FL1700	1007	To Be Improved	1700
8	Los Angeles	Airline C	FL1020	1008	To Be Improved	1020
9	Los Angeles	Airline A	FL1614	1009	To Be Improved	1614
10	Chicago	Airline D	FL1121	1010	To Be Improved	1121
11	Phoenix	Airline A	FL1466	1011	Best	1466
12	New York	Airline D	FL1214	1012	To Be Improved	1214
13	Houston	Airline C	FL1330	1013	Best	1330
14	New York	Airline C	FL1458	1014	To Be Improved	1458
15	Houston	Airline C	FL1087	1015	To Be Improved	1087
16	New York	Airline B	FL1372	1016	To Be Improved	1372
17	Phoenix	Airline D	FL1099	1017	To Be Improved	1099
18	Houston	Airline B	FL1871	1018	To Be Improved	1871
19	Chicago	Airline B	FL1663	1019	To Be Improved	1663
20	New York	Airline A	FL1130	1020	Best	1130
21	New York	Airline B	FL1661	1021	To Be Improved	1661

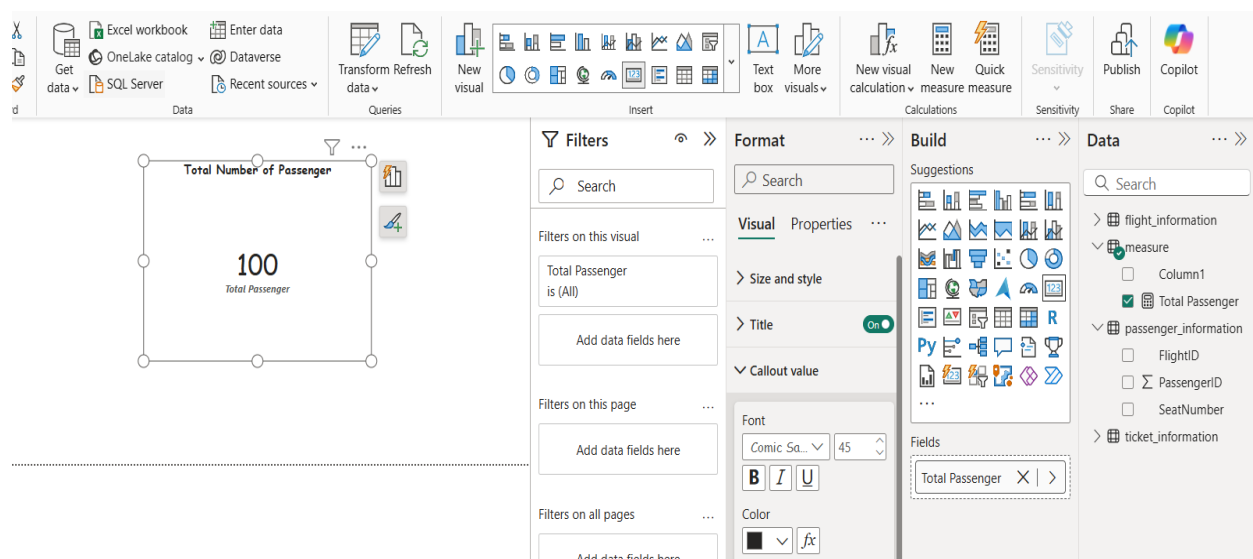
Steps:

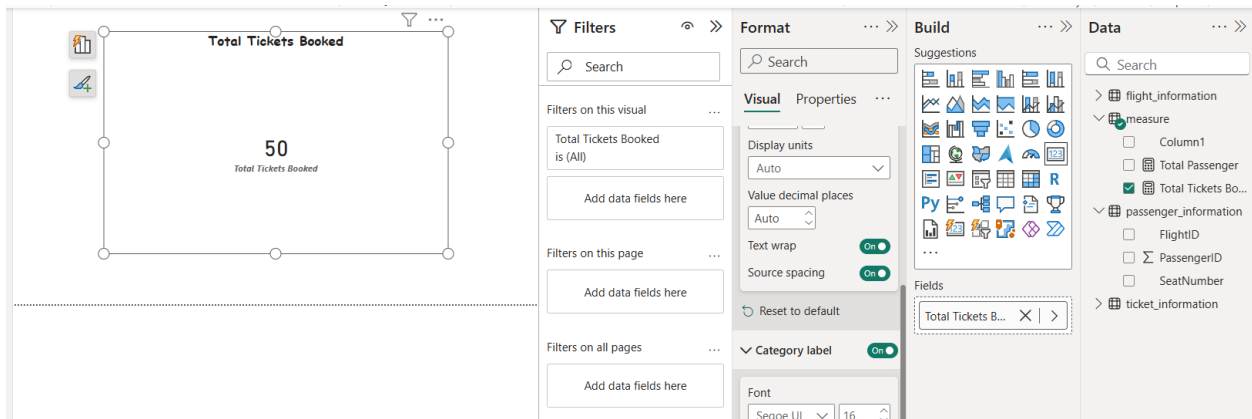
- So, the first I have opened the power query editor then clicked the **Add Column**
- Then used the first **Conditional Column** and added the condition as if the status of the flight is **On Time** then marked as “**Best**” otherwise marked as “**To Be Improved**”
- Then Created one more column as **flight number** and there I copied only the **Number** from then **FlightNumber** column
- The column was created from **Add Column** menu as **Column from examples** and given the column name as **flight number**

Task-4

4. Calculations Using DAX

- Calculate:
 - Total passengers for a specific flight.
 - Total tickets booked.
- Deliverables: Screenshot of DAX calculations and results





Steps:

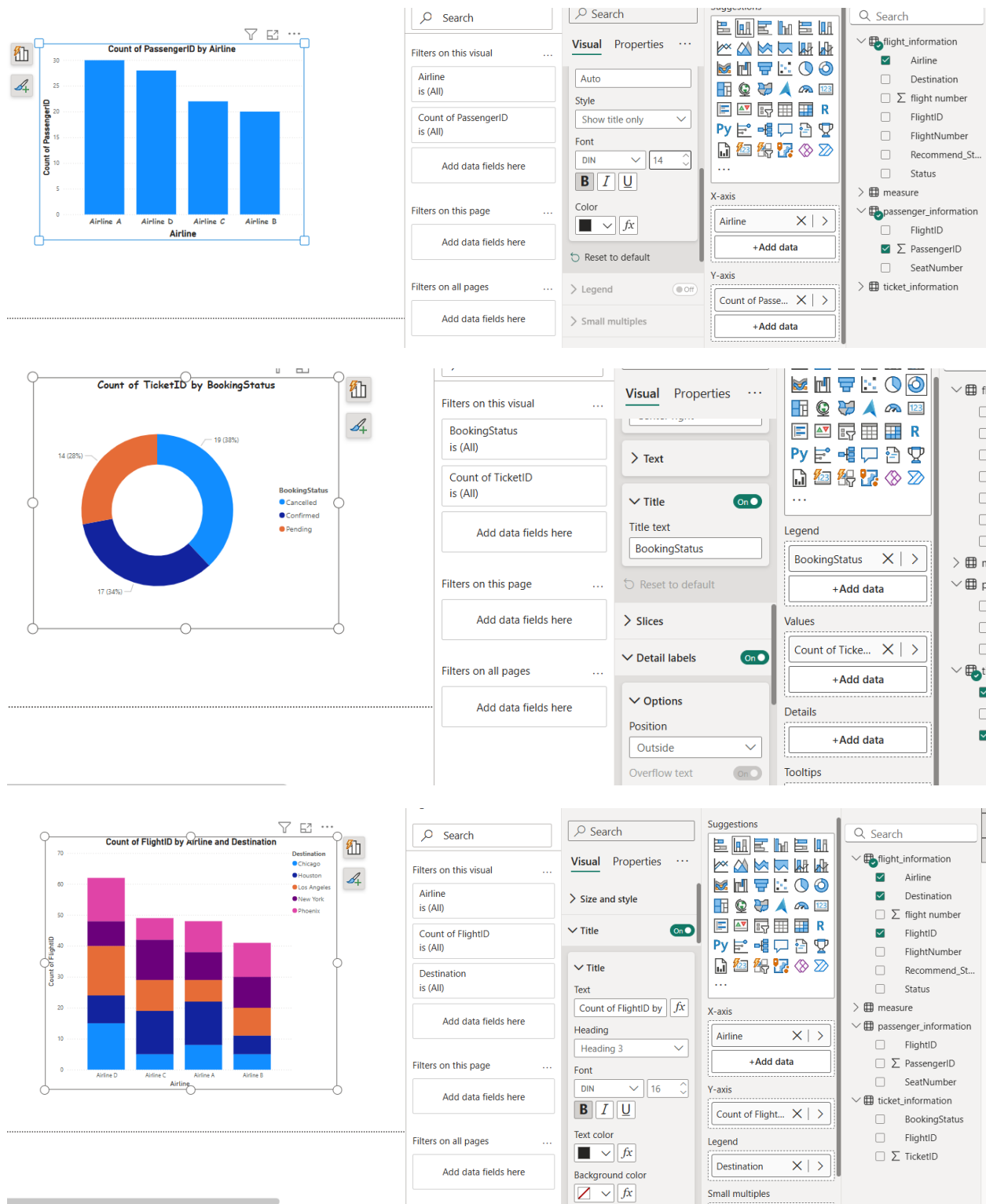
- First I created a measure from **Enter Data** ribbon under **Home** menubar
- Then for the first DAX I used as **Total Passenger = COUNTROWS(passenger_information)** for calculating the **Total Number of Passenger**
- Then I used the second DAX as **Total Tickets Booked = COUNTROWS(ticket_information)** for calculating the **Total Tickets Booked**
- Displayed the output

Task-5

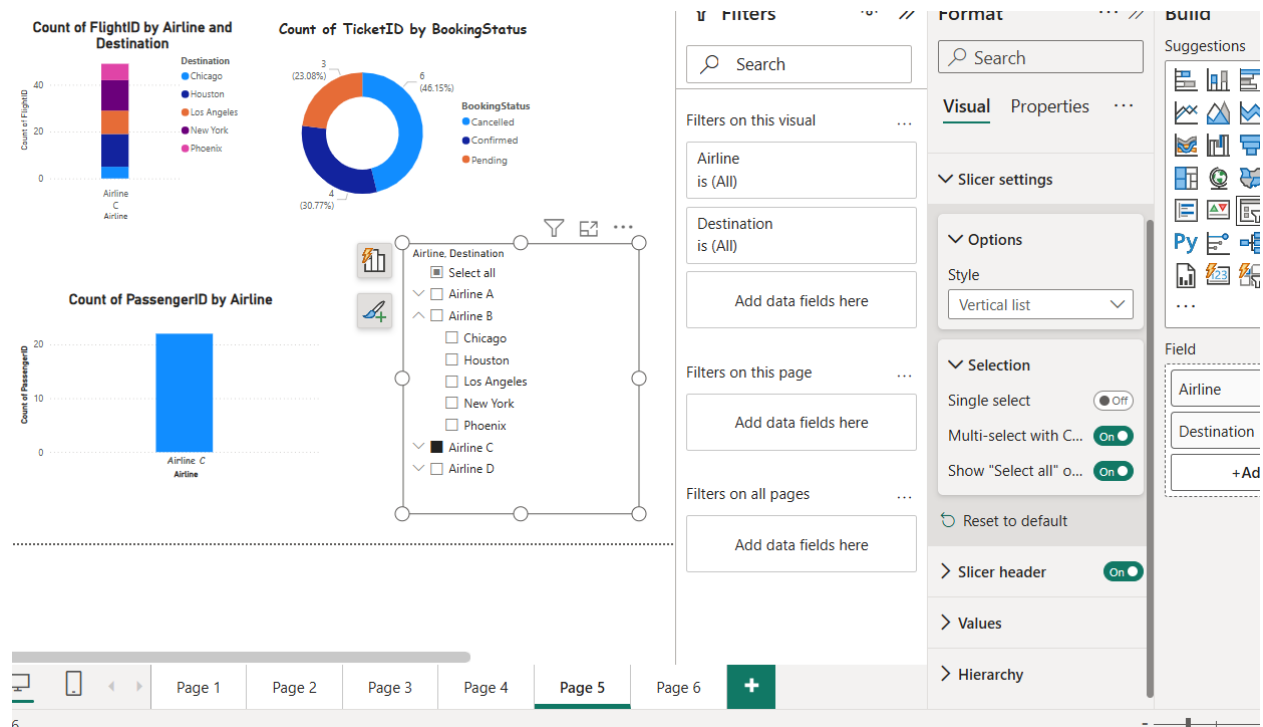
Visualization and Interactive Features

- Create visuals for:
 - Passenger count by airline.
 - Ticket booking statuses.
 - Flights by airline and destination.
- Add interactive features for:
 - Destination and Airline.
 - Quick views.
 - Airline-specific pages.

- Deliverables: Screenshots of all visuals and interactive features



Interactive Features :



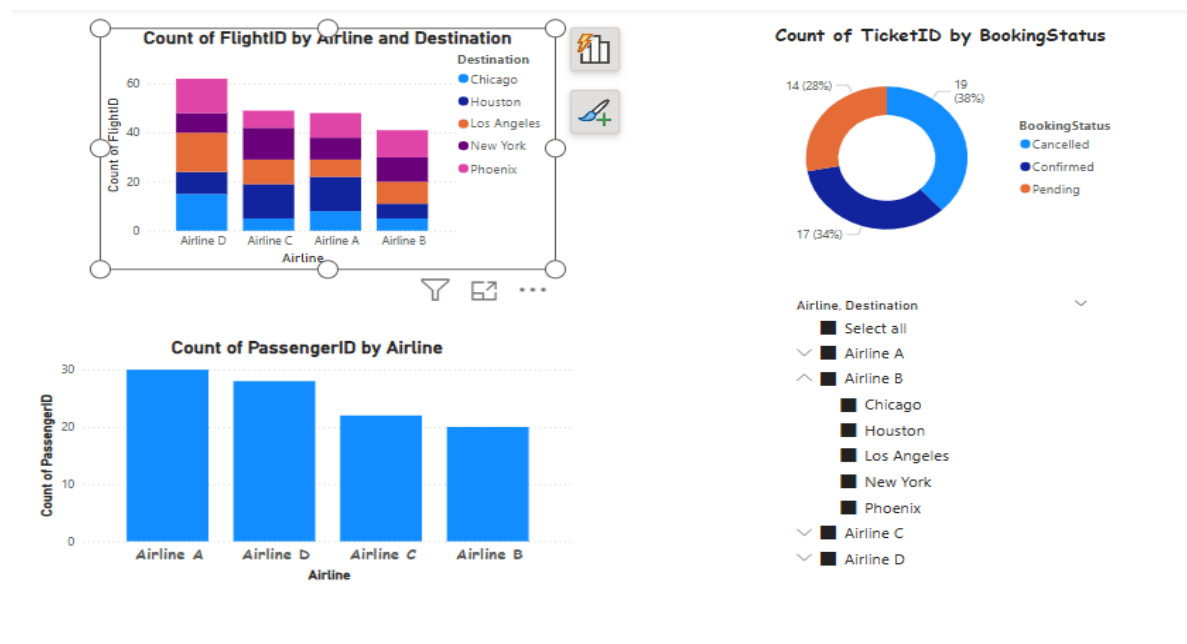
Steps:

- Initially I created the visuals for all the 3 conditions as per given
- Then I copied all the reports and displayed in one page
- There I used **Slicer** and dragged the **Airline field** and **Destination** in fields pane
- When I select any slicer then entire data is being filtered and displayed all the ui .

Task-6

Final Dashboard and Power BI Service

- Design a comprehensive dashboard with key visuals and insights.
- Configure Row-Level Security (RLS) for Airline A data and assign it to a user.
- Setup schedule refresh at 5 PM daily.
- Deliverables: Screenshot of the published dashboard and RLS configuration.



Row-Level Security

On Time (1)

Members (1)

People or groups who belong to this role

Add

deepu singh ×

Refresh

Time zone

ⓘ Time zone configuration is applied not only to determine the schedule refresh time but also to determine the time of incremental refresh models during on-demand and API refreshes. [Learn more](#)

(UTC) Coordinated Universal Time ▼

Configure a refresh schedule

Define a data refresh schedule to import data from the data source into the semantic model.

☒ On

Refresh frequency

Daily ▼

Time

5 ▼ 00 ▼ PM ▼ ×

[Add another time](#)

Send refresh failure notifications to

☒ Semantic model owner

☐ These contacts:

Enter email addresses

Steps:

- So, at first I created the visuals of all the and displayed in a single report
- Then I created a **RLS** from flight_information based on **status** and displayed only one status as **On Time**
- Then applied the **RLS** in the powerBI service as well to display me only
- Then at the last added the **Refresh** based in **Daily** at **5 pm**