

Final project module 3

Task 1: Data Preparation and Cleaning

Remove Duplicates

Click **Remove Duplicates** from the **Home** tab.

Remove unnecessary columns which has only null values

The screenshot shows the Power Query Editor interface. The 'Home' tab is active, and the 'Remove Duplicates' button is highlighted in the 'Manage Columns' group. The formula bar shows the M code: `= Table.SelectColumns(#"Removed Duplicates",{"FlightID", "FlightNumber", "Airline", "Destination", "Status"})`. The data preview shows a table with 5 columns and 200 rows. The 'Query Settings' pane on the right shows the 'PROPERTIES' tab with the name 'flight_information' and the 'APPLIED STEPS' list, which includes 'Removed Duplicates' and 'Removed Other Columns'.

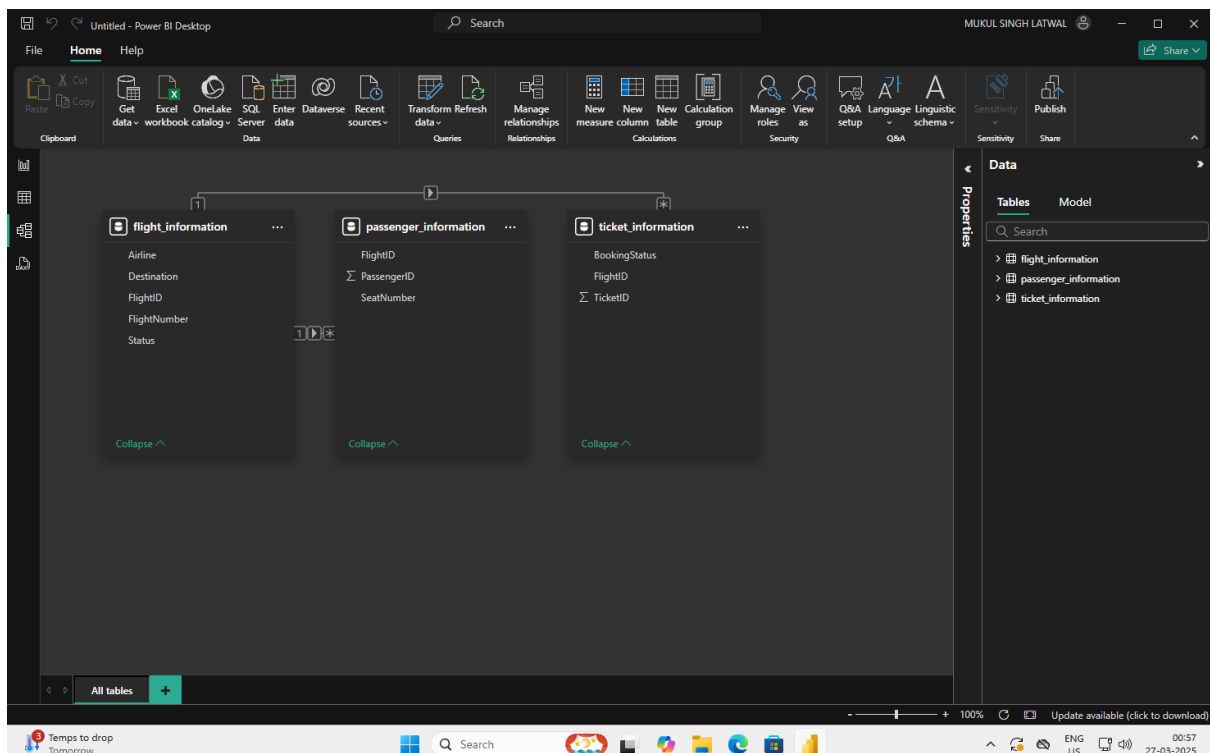
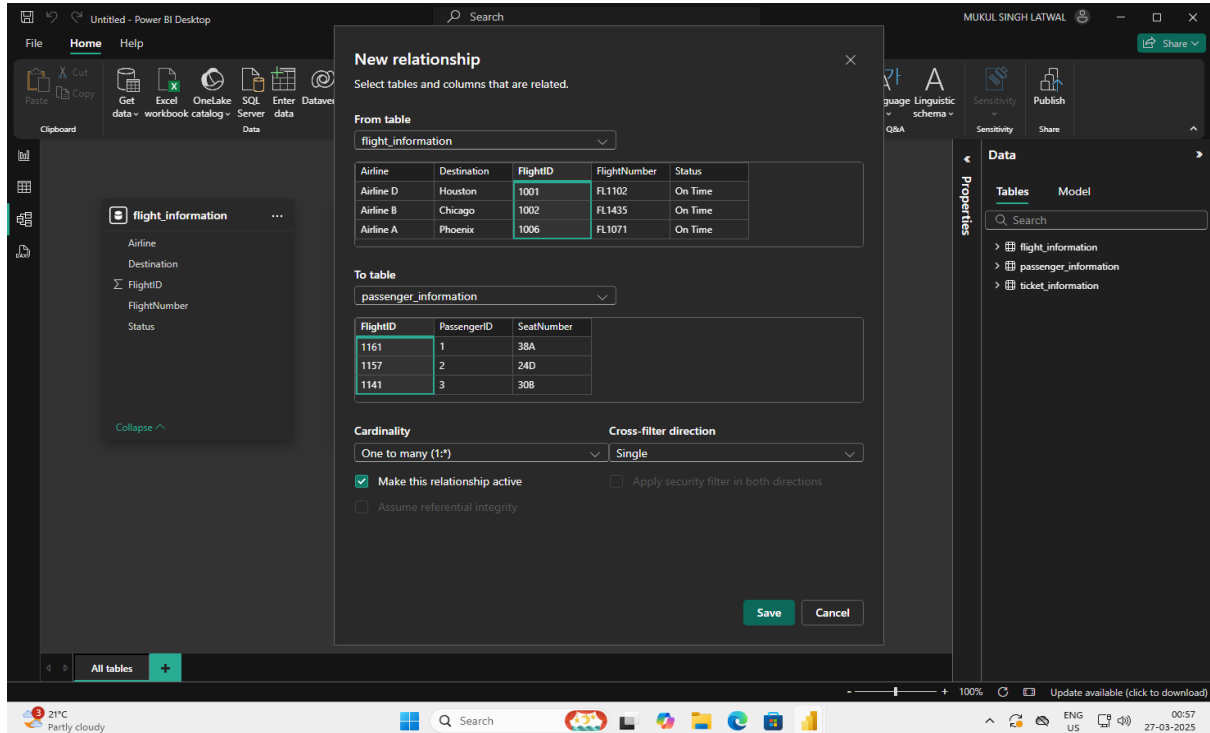
FlightID	FlightNumber	Airline	Destination	Status	
172	1172	FL1546	Airline B	Los Angeles	Delayed
173	1173	FL1960	Airline A	Chicago	Cancelled
174	1174	FL1738	Airline D	Los Angeles	On Time
175	1175	FL1612	Airline B	New York	On Time
176	1176	FL1942	Phoenix	Delayed	
177	1177	FL1461	Airline A	Phoenix	Cancelled
178	1178	FL1642	Airline A	Houston	Cancelled
179	1179	FL1768	Airline D	Los Angeles	On Time
180	1180	FL1004	Airline C	New York	On Time
181	1181	FL1217	Airline C	Houston	Delayed
182	1182	FL1502	Airline A	Chicago	Delayed
183	1183	FL1766	Airline A	Houston	Cancelled
184	1184	FL1397	Airline C	Houston	Cancelled
185	1185	FL1870	Airline C	Los Angeles	On Time
186	1186	FL1794	Airline D	Chicago	Cancelled
187	1187	FL1392	Airline D	Houston	Delayed
188	1188	FL1206	Airline C	New York	Delayed
189	1189	FL1014	Airline D	New York	On Time
190	1190	FL1857	Airline D	Phoenix	Delayed
191	1191	FL1553	Airline B	Chicago	Delayed
192	1192	FL1891	Airline D	Chicago	Delayed
193	1193	FL1460	Airline A	Phoenix	Delayed
194	1194	FL1690	Airline D	Houston	On Time
195	1195	FL1574	Airline D	Chicago	On Time
196	1196	FL1863	Airline C	New York	Cancelled
197	1197	FL1742	Airline A	New York	Delayed
198	1198	FL1240	Airline D	Los Angeles	Cancelled
199	1199	FL1563	Airline D	Chicago	On Time
200	1200	FL1095	Airline B	Houston	On Time

The screenshot shows the Power Query Editor interface. The 'Home' tab is active, and the 'Remove Duplicates' button is highlighted in the 'Manage Columns' group. The formula bar shows the M code: `= Table.SelectColumns(#"Removed Duplicates",{"PassengerID", "FlightID", "SeatNumber"})`. The data preview shows a table with 3 columns and 29 rows. The 'Query Settings' pane on the right shows the 'PROPERTIES' tab with the name 'passenger_information' and the 'APPLIED STEPS' list, which includes 'Removed Duplicates' and 'Removed Other Columns'.

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
22	22	1146 5B
23	23	1177 28B
24	24	1011 22E
25	25	1085 6A
26	26	1026 5A
27	27	1063 13B
28	28	1086 46B
29	29	1059 49B

Task 2: Data Modeling

Create relationships between the datasets using **FlightID** as the key in Power BI's **Model View**.



Task 3:Enhanced Data Insights

you need to **add a conditional column, extract flight numbers**, and transform the data in Power Query.

Add a Conditional Column for Flight Status:-

"On Time" then "Best" else "To Be Improved")

ABC 123	Status	FlightStatus
	On Time	Best
	On Time	Best
	Cancelled	To Be Improved
	Delayed	To Be Improved
	Delayed	To Be Improved
	On Time	Best
	Cancelled	To Be Improved
	Delayed	To Be Improved
	Cancelled	To Be Improved
	Cancelled	To Be Improved
	On Time	Best
	Delayed	To Be Improved
	On Time	Best
	Delayed	To Be Improved
	Delayed	To Be Improved
	Delayed	To Be Improved
	Delayed	To Be Improved
	Delayed	To Be Improved
	Cancelled	To Be Improved
	On Time	Best
	Cancelled	To Be Improved
	Delayed	To Be Improved
	On Time	Best
	Delayed	To Be Improved
	On Time	Best
	Cancelled	To Be Improved
	On Time	Best
	On Time	Best
	On Time	Best

Query Settings

PROPERTIES

Name

flight_information

All Properties

APPLIED STEPS

Source

Navigation

Promoted Headers

Changed Type

Removed Duplicates

Removed Other Columns

Added Conditional Column

Extract Flight Number Using "Column from Examples"

The screenshot shows the Power BI Query Settings window for a query named 'flight_information'. The 'APPLIED STEPS' list includes: Source, Navigation, Promoted Headers, Changed Type, Removed Duplicates, Removed Other Columns, Added Conditional Column, Inserted Text After Delimiter, and 'Renamed Columns' (which is selected). The 'Column from Examples' step is highlighted, and the 'flightnumberonly' column is selected in the data preview on the left. The data preview shows a list of flight numbers: 1102, 1435, 1860, 1270, 1106, 1071, 1700, 1020, 1614, 1121, 1466, 1214, 1330, 1458, 1087, 1372, 1099, 1871, 1663, 1130, 1661, 1308, 1769, 1343, 1491, 1413, 1805, 1385, and 1102.

flightnumberonly
1102
1435
1860
1270
1106
1071
1700
1020
1614
1121
1466
1214
1330
1458
1087
1372
1099
1871
1663
1130
1661
1308
1769
1343
1491
1413
1805
1385
1102

PREVIEW DOWNLOADED AT 00:38

Task 4: Calculations Using DAX

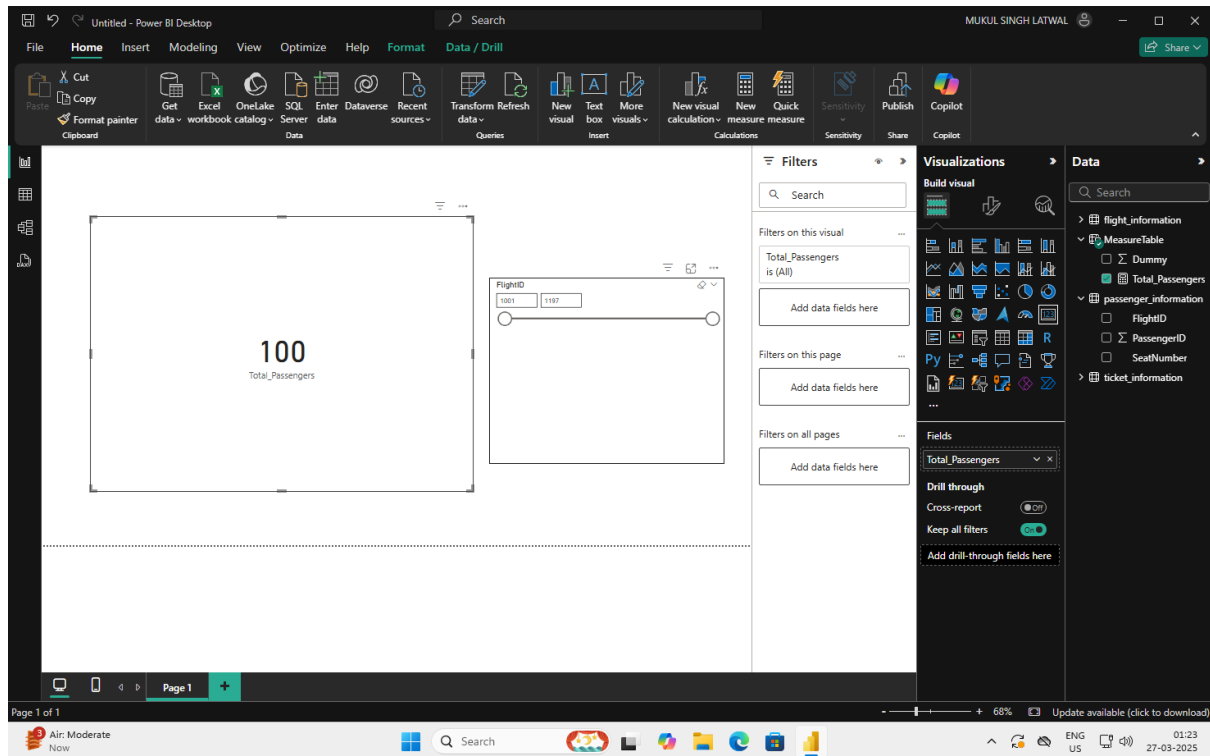
In this task, you will create **DAX measures** to calculate:

1. **Total passengers for a specific flight**
2. **Total tickets booked**
3. **A filtered table showing only "Best" flights**

Calculate Total Passengers for a Specific Flight

Dax formula-Total_Passengers = COUNT(Passenger_Information[PassengerID])

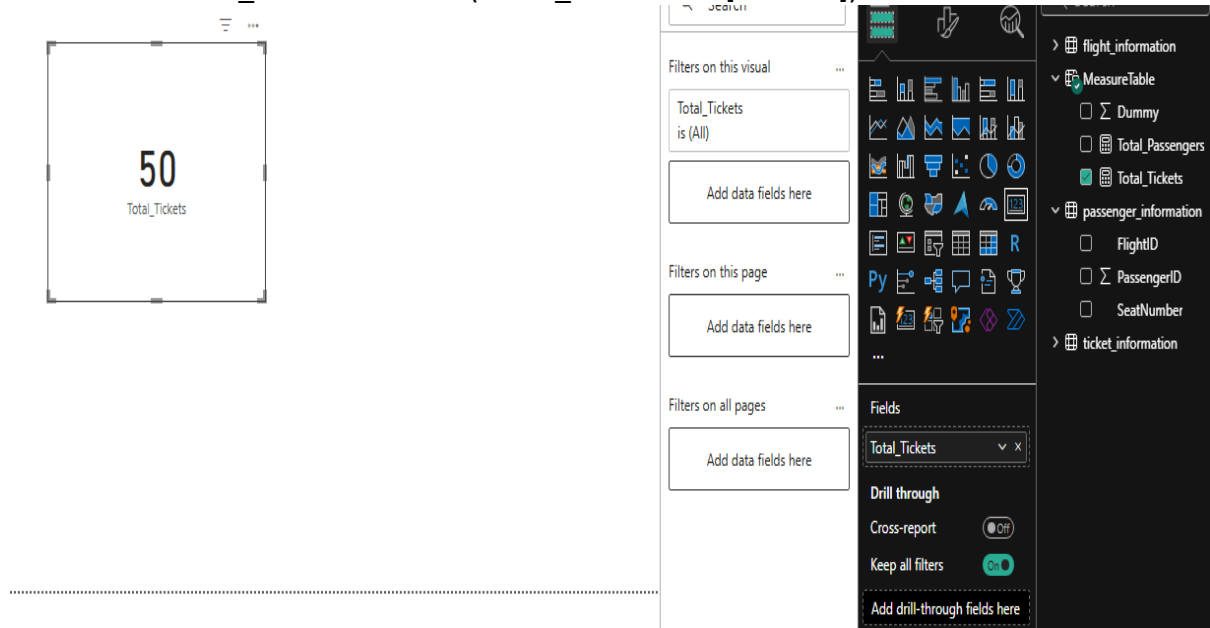
Use a **Slicer** with Flightid.



Calculate Total Tickets Booked

This measure counts all booked tickets.

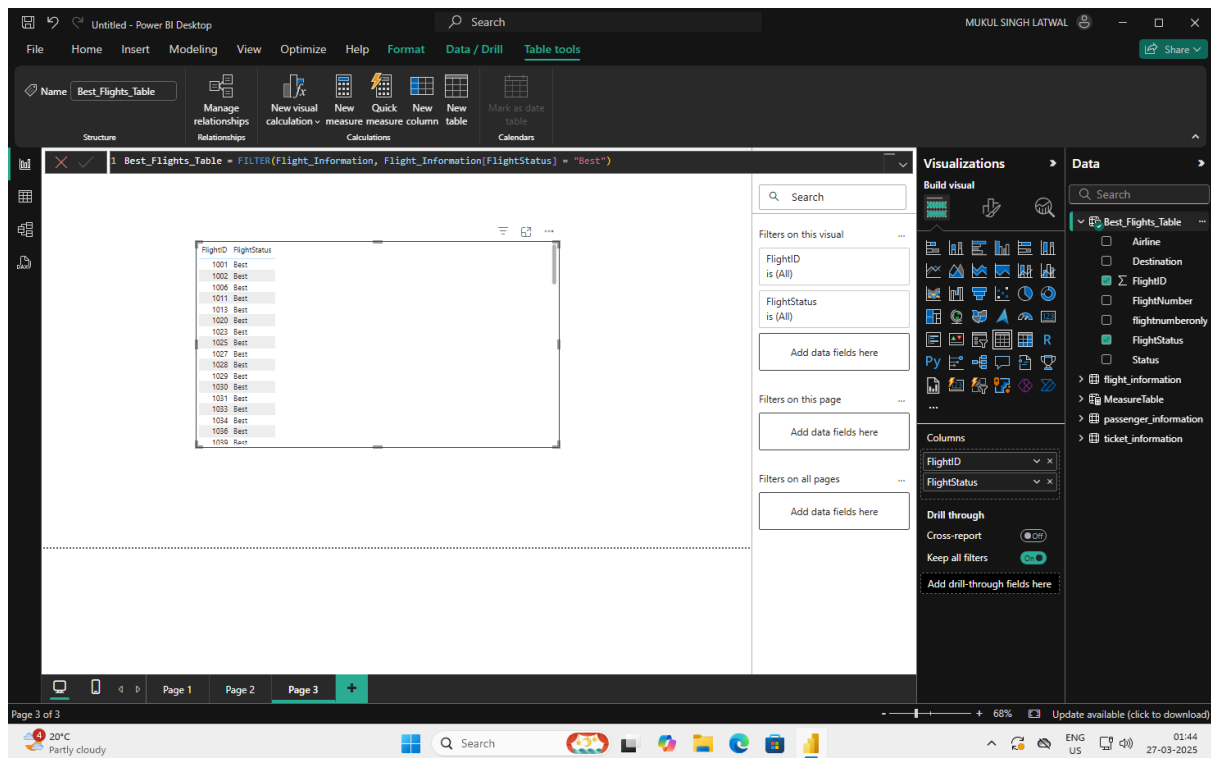
Dax formula-Total_Tickets = COUNT(Ticket_Information[TicketID])



Create a Filtered Table for "Best" Flights Only

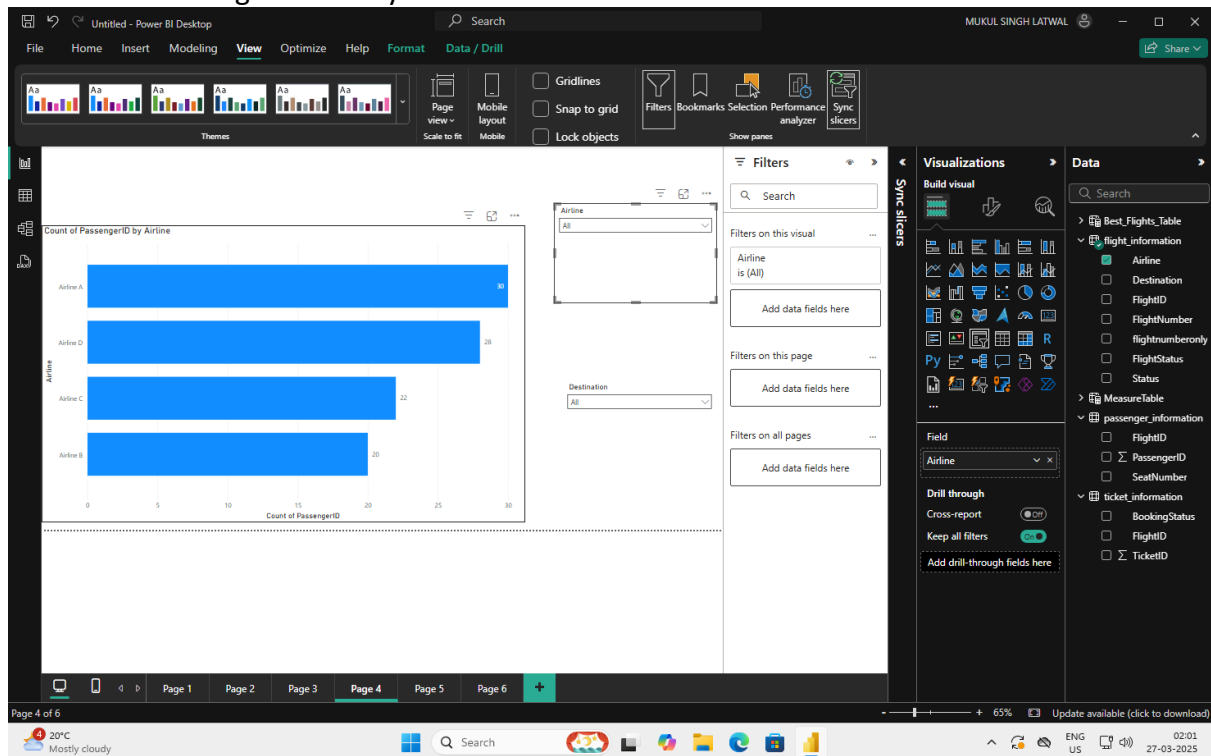
Go to "Modeling" → "New Table"

Best_Flights_Table = FILTER(Flight_Information, Flight_Information[FlightStatus] = "Best")



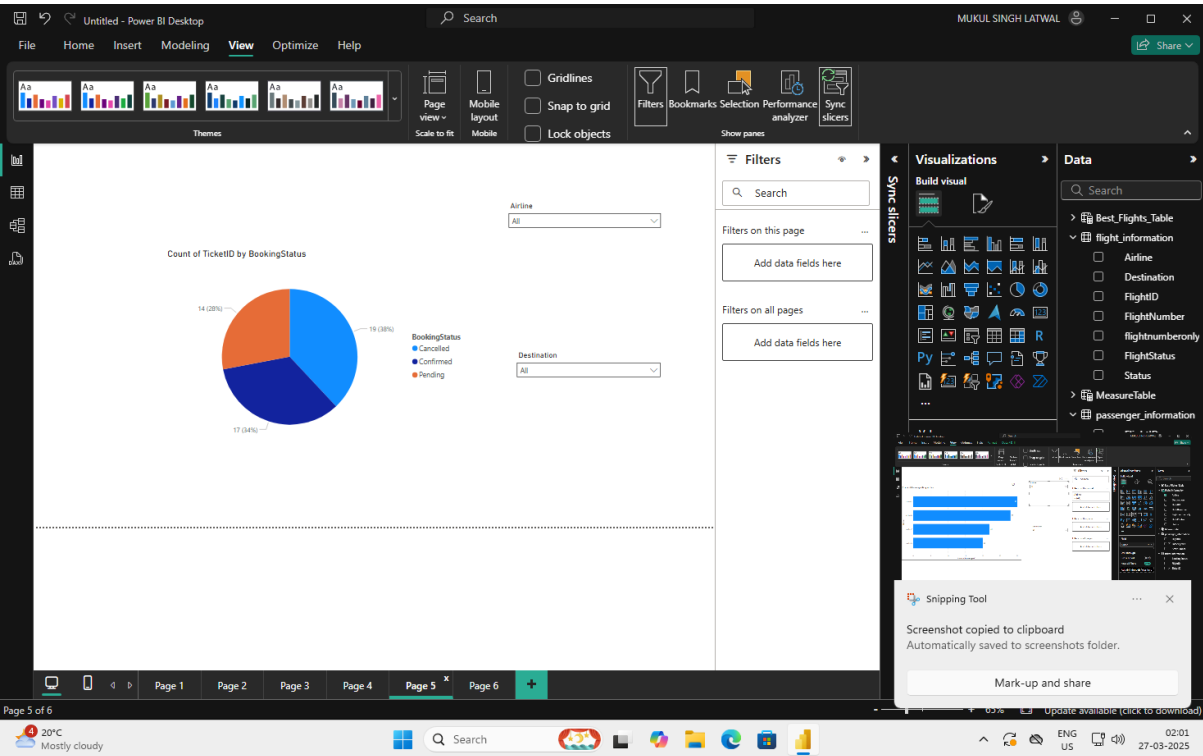
Task 5: Visualization and Interactive Features

Bar Chart: Passenger Count by Airline



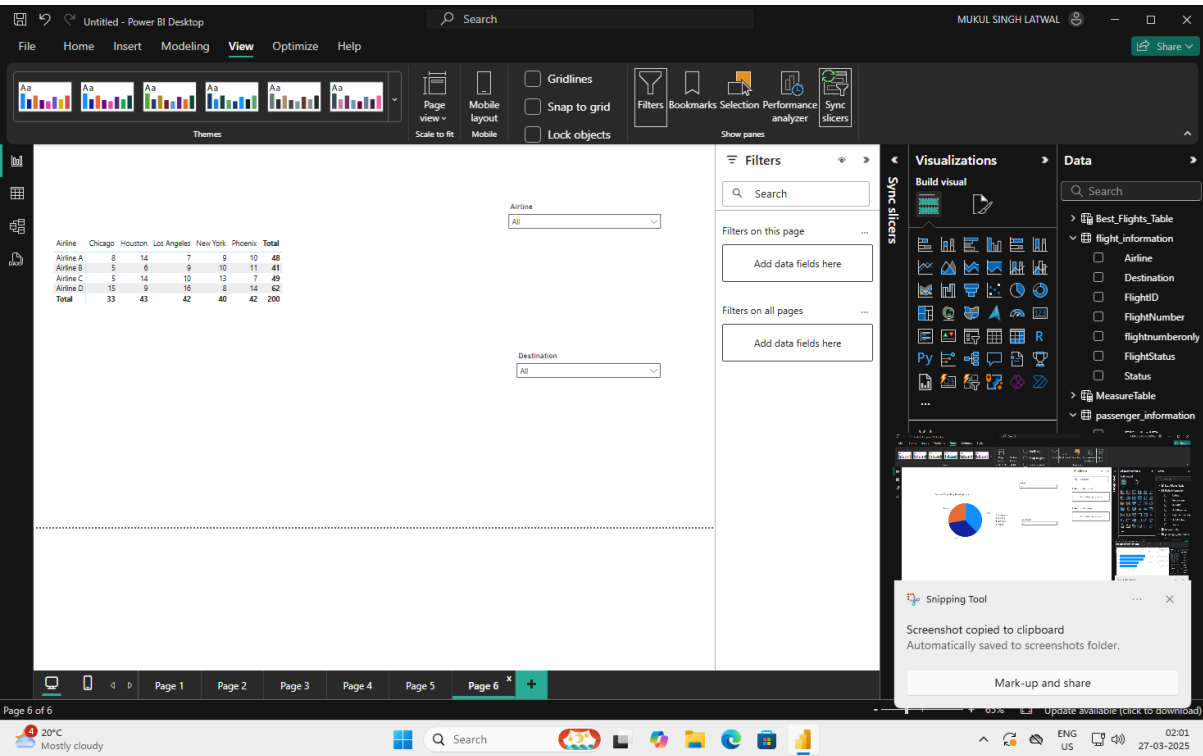
Pie Chart: Ticket Booking Status

Show different booking statuses in a percentage format.



Matrix Table: Flights by Airline and Destination

Show the number of flights each airline has for different destinations.

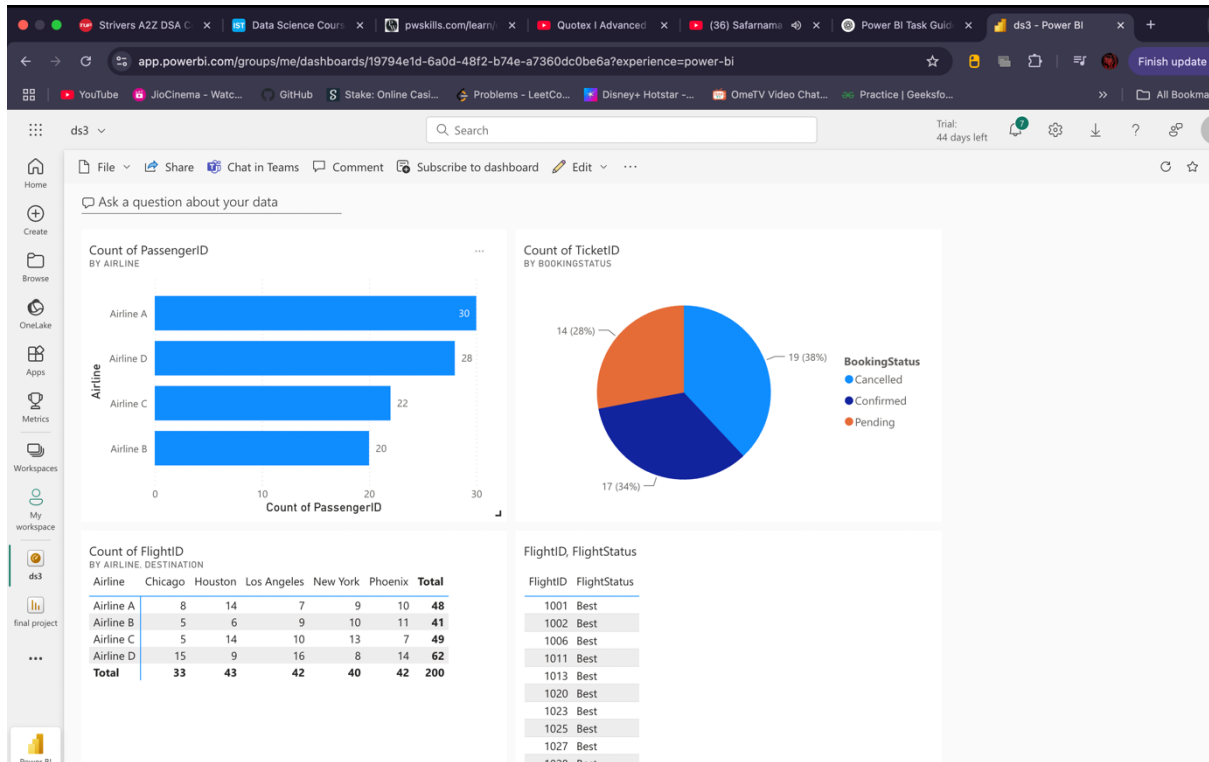


Task 6: Final Dashboard and Power BI Service

Open **Power BI Desktop**.

Click on **"File" → "Publish" → "Power BI Service"**.

Select your **Workspace**



Configure Row-Level Security (RLS) in Power BI Service

1 Go to **Datasets** → Click on **"..."** → **Security**.

2 Select the role you created (**"AirlineA_RLS"**).

3 Add users who should only see **Airline A** data.

Set Up Scheduled Refresh at 5 PM Daily

1 Go to **Datasets** in Power BI Service.

2 Click on **"..."** → **"Schedule Refresh"**.

3 Turn on **Keep Data Updated**.

4 Set **Refresh Time** = **5:00 PM**.

