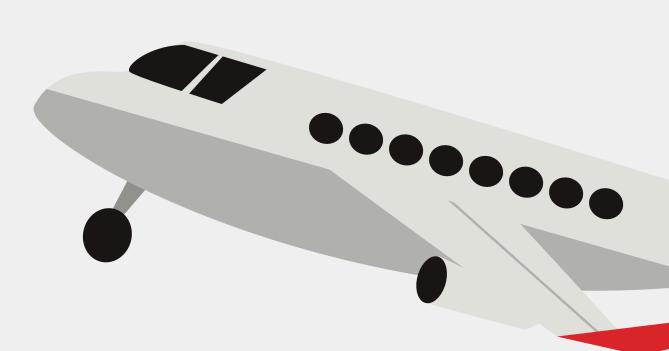
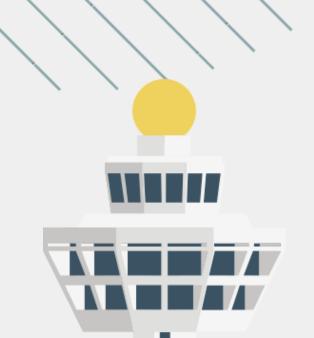


Presented By: Vivek Motwani





01 - INTRODUCTION

02 - OBJECTIVE

03 - ER DIAGRAM

04 - SCHEMA DIAGRAM

05 - TABLES & QUERIES

06 - CONCLUSION

PROJECT INTRODUCTION

- The system is based on airport management.
- Airport management system primarily deals with management of airport, airlines and passengers.
- The system provides broad overview of underlying operational factors that influence the airport management.
- The database system has the data of all commercial service airports.

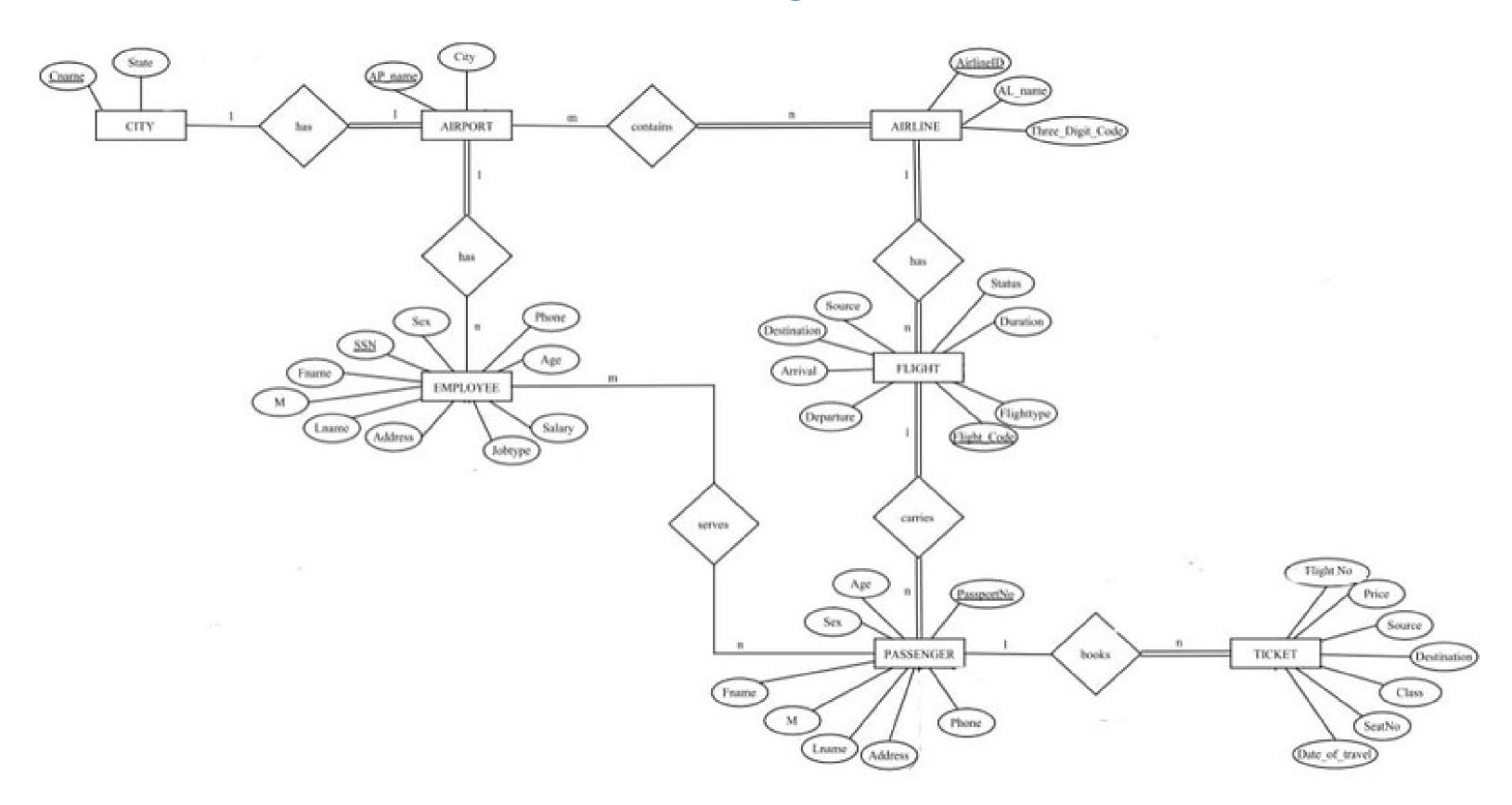
OBJECTIVE

- Built a Flight Management System using SQL
- Understand how DBMS works
- Understand how to fetch data from an Database
- Implementing SQL Queries

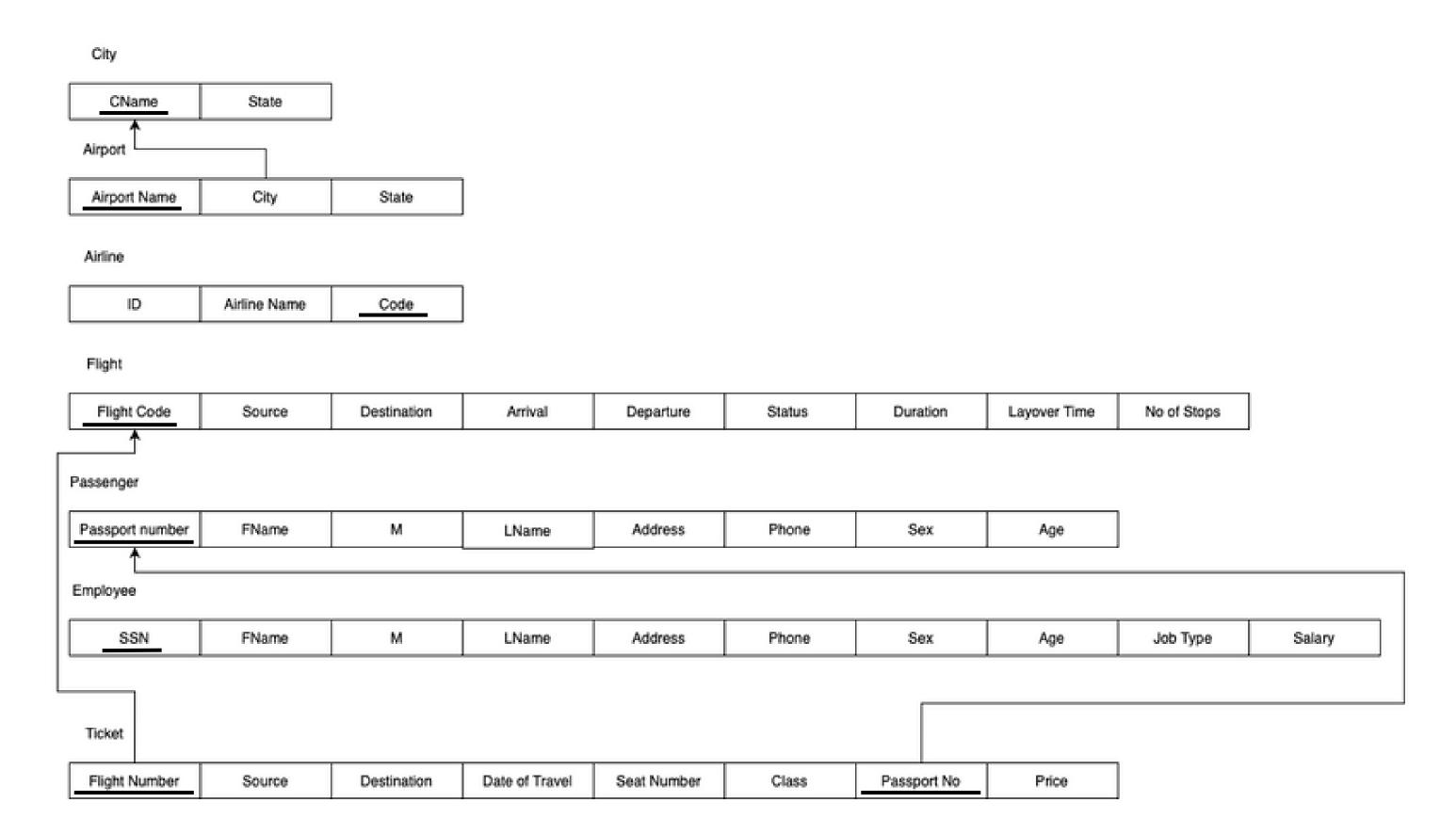
ASSUMPTIONS

- We are not considering privately managed airports. We are only considering publicly owned airports.
- The system is designed only for domestic flights.
- A city has at most one important airport.
- For Connecting flights, flight and airline remains same at layover stops
- There are different types of jobs available at the airport.
 For simplicity our system considers a few jobs only.

ER DIAGRAM



RELATIONAL SCHEMA



TABLES AND QUERIS

CITY

CNAME	STATE
Mumbai	Maharashtra
Delhi	Delhi
Bangalore	Karnataka
Chennai	Tamil Nadu
Hyderabad	Telangana
Kolkata	West Bengal
Ahmedabad	Gujarat
Pune	Maharashtra
Jaipur	Rajasthan
Lucknow	Uttar Pradesh
Kochi	Kerala
Goa	Goa
Amritsar	Punjab
Bhubaneswar	Odisha
Patna	Bihar
Srinagar	Jammu and Kashmir
Guwahati	Assam
Nagpur	Maharashtra
Bagdogra	West Bengal
Coimbatore	Tamil Nadu
Trivandrum	Kerala

AIRPORT

AP_NAME	CITY
Indira Gandhi InternatiOnal Airport	Delhi
Chhatrapati Shivaji InternatiOnal Airport	Mumbai
Kempegowda InternatiOnal Airport	Bangalore
Rajiv Gandhi InternatiOnal Airport	Hyderabad
Netaji Subhas Chandra Bose InternatiOnal Airport	Kolkata
Chennai InternatiOnal Airport	Chennai
Bengaluru InternatiOnal Airport	Bengaluru
Cochin InternatiOnal Airport	Cochin
Hyderabad InternatiOnal Airport	Hyderabad
Pune InternatiOnal Airport	Pune
Goa InternatiOnal Airport	Panjim
Jaipur InternatiOnal Airport	Jaipur
Ahmedabad InternatiOnal Airport	Ahmedabad
Sardar Vallabhbhai Patel InternatiOnal Airport	Ahmedabad
Biju Patnaik InternatiOnal Airport	Bhubaneswar
Calicut InternatiOnal Airport	Kozhikode
Tiruchirapalli InternatiOnal Airport	Tiruchirappalli
Vijayawada InternatiOnal Airport	Vijayawada
Rajahmundry Airport	Rajahmundry

AIRLINE

ID	AIRLINE_NAME	CODE
1	Air India	AI
2	Air India Express	IX
3	AIX COnnect	I 5
4	Akasa Air	QP
5	Go First	G8
6	IndiGo	6E
7	SpiceJet	SG
8	Vistara	UK

FLIGHT

FLIGHTCODE	SOURCE	DESTINATION	ARRIVAL	DEPARTURE	STATUS	DURATION	LAY0VERTIME	NOOFSTOPS
AI101	Mumbai	Delhi	01-APR-23	01-APR-23	On time	150	-	0
6E552	Bangalore	Chennai	02-APR-23	02-APR-23	Delayed	120	-	0
SG704	Delhi	Hyderabad	03-APR-23	03-APR-23	On time	210	60	1
UK793	Chennai	Mumbai	04-APR-23	04-APR-23	On time	135	-	0
6E251	Chennai	Hyderabad	02-APR-23	02-APR-23	Delayed	105	60	1
SG211	Delhi	Kolkata	03-APR-23	03-APR-23	On time	105	-	0
UK723	Bengaluru	Mumbai	04-APR-23	04-APR-23	cancelled	150	-	0
6E415	Chennai	Bengaluru	02-APR-23	02-APR-23	Delayed	60	-	0
AI222	Delhi	Kolkata	03-APR-23	03-APR-23	On Time	130	-	0
SG403	Bengaluru	Delhi	04-APR-23	04-APR-23	On Time	170	-	0
AI532	Mumbai	Delhi	05-APR-23	05-APR-23	Delayed	160	60	1
6E511	Chennai	Delhi	06-APR-23	06-APR-23	On Time	200	-	0
SG737	Bengaluru	Mumbai	07-APR-23	07-APR-23	On Time	100	-	0
AI951	Delhi	Hyderabad	08-APR-23	08-APR-23	Delayed	160	30	1
6E825	Bengaluru	Kolkata	09-APR-23	09-APR-23	On Time	150	-	0
AI898	Mumbai	Delhi	01-APR-23	01-APR-23	On time	150	-	0
AI103	Delhi	Mumbai	01-APR-23	01-APR-23	On Time	150	-	0
AI340	Mumbai	Hyderabad	07-APR-23	07-APR-23	On Time	155	-	0
UK456	Delhi	Chennai	08-APR-23	08-APR-23	Delayed	155	30	1
6E789	Hyderabad	Kolkata	09-APR-23	09-APR-23	On Time	185	-	0
SG901	Pune	Delhi	10-APR-23	10-APR-23	On Time	135	60	1
AI234	Jaipur	Bangalore	11-APR-23	11-APR-23	Delayed	210	-	0
UK567	Chennai	Ahmedabad	12-APR-23	12-APR-23	On Time	150	30	1
6E890	Bangalore	Mumbai	13-APR-23	13-APR-23	On Time	120	-	0
SG543	Kolkata	Jaipur	14-APR-23	14-APR-23	Delayed	165	-	0
AI123	Hyderabad	Delhi	15-APR-23	15-APR-23	On Time	160	45	1
JK678	Chennai	Jaipur	16-APR-23	16-APR-23	On Time	120	-	0
5E901	Kolkata	Pune	17-APR-23	17-APR-23	On Time	185	30	1
5G678	Ahmedabad	Jaipur	18-APR-23	18-APR-23	On Time	100	-	0
AI456	Delhi	Bangalore	19-APR-23	18-APR-23	Delayed	210	45	1

EMPLOYEE

SSN	FNAME	М	LNAME	ADDRESS	PHONE	AGE	SEX	JOBTYPE	SALARY
123456789	Rahul	К	Sharma	10 Main Street, Mumbai, Maharashtra	9876543210	30	М	Software Engineer	70000
234567890	Priya	S	Singh	15 2nd Cross, Bangalore, Karnataka	8765432109	25	F	HR Executive	50000
345678901	Amit	R	Verma	25 Gandhi Road, New Delhi, Delhi	7654321098	40	М	Sales Manager	90000
456789012	Sneha	М	Patil	5 Hilltop Colony, Pune, Maharashtra	6543210987	35	F	Marketing Analyst	60000
567890123	Raj	٧	Kumar	30 3rd Street, Chennai, Tamil Nadu	5432109876	28	М	Graphic Designer	55000
678901234	Anjali	Р	Desai	20 1st Cross, Hyderabad, Telangana	4321098765	32	F	Accountant	65000
789012345	Gaurav	N	Joshi	35 4th Street, Ahmedabad, Gujarat	3210987654	27	М	Software Developer	75000
890123456	Ruchi	К	Gupta	15 5th Avenue, Jaipur, Rajasthan	2109876543	23	F	Customer Service	40000
901234567	Alok	В	Singh	40 MG Road, Kolkata, West Bengal	1098765432	45	М	Operations Manager	95000
234567891	Pooja	٧	Iyer	25 2nd Floor, Chennai, Tamil Nadu	8765432109	28	F	Web Designer	60000
345678902	Avinash	s	Mishra	30 3rd Lane, Bangalore, Karnataka	7654321098	31	М	Marketing Manager	85000
456789013	Riya	К	Shah	5 Hilltop Colony, Pune, Maharashtra	6543210987	34	F	Public Relations Officer	55000
567890124	Amitabh	s	Bose	10 7th Main Road, Mumbai, Maharashtra	5432109876	37	М	Business Analyst	90000
678901235	Smita	G	Patel	12 6th Floor, New Delhi, Delhi	4321098765	26	F	Operations Coordinator	50000
789012346	Nikhil	Α	Thakur	20 3rd Cross, Hyderabad, Telangana	3210987654	30	М	Financial Analyst	70000
890123457	Komal	R	Choudhary	25 1st Lane, Ahmedabad, Gujarat	2109876543	33	F	Human Resource Manager	80000
901234568	Suresh	Р	Kumar	40 Gandhi Road, Kolkata, West Bengal	1098765432	29	М	Sales Executive	55000
234567892	Priyanka	К	Gandhi	15 2nd Floor, Chennai, Tamil Nadu	8765432109	28	F	Project Manager	95000
345678903	Varun	А	Kapoor	30 5th Avenue, Bangalore, Karnataka	7654321098	32	М	Technical Writer	65000
567890129	Anil	R	Sharma	10 7th Main Road, Mumbai, Maharashtra	5432109876	36	М	Data Analyst	75000
678901237	Neha	Α	Chopra	12 6th Floor, New Delhi, Delhi	4321098765	25	F	Social Media Manager	60000
789012347	Rajesh	К	Mehta	20 3rd Cross, Hyderabad, Telangana	3210987654	29	М	Business Development Executive	55000
890123459	Nisha	S	Shah	25 1st Lane, Ahmedabad, Gujarat	2109876543	27	F	Graphic Designer	50000
901234569	Kunal	М	Sharma	40 Gandhi Road, Kolkata, West Bengal	1098765432	33	М	IT Support Engineer	65000
234567893	Shweta	R	Rao	15 2nd Floor, Chennai, Tamil Nadu	8765432109	31	F	Software Tester	55000
345678904	Siddharth	К	Sinha	30 5th Avenue, Bangalore, Karnataka	7654321098	30	М	Content Writer	45000

PASSENGER

PASSPORTNO	FNAME	М	LNAME	ADDRESS	PHONE	AGE	SEX
K1234567	Rajesh	К	Sharma	10 7th Main Road, Mumbai, Maharashtra	5432109876	36	М
L2345678	Neha	А	Chopra	12 6th Floor, New Delhi, Delhi	4321098765	25	F
M3456789	Rakesh	L	Mehta	20 3rd Cross, Hyderabad, Telangana	3210987654	29	М
N4567890	Nisha	s	Shah	25 1st Lane, Ahmedabad, Gujarat	2109876543	27	F
05678901	Kunal	М	Sharma	40 Gandhi Road, Kolkata, West Bengal	1098765432	33	М
P6789012	Priya	S	Patel	30 Sardar Patel Road, Surat, Gujarat	9876543210	23	F
Q7890123	Rahul	К	Verma	45 Gandhi Nagar, Jaipur, Rajasthan	8765432109	28	М
R8901234	Nikhil	М	Gupta	50 MG Road, Bangalore, Karnataka	7654321098	31	М
S9012345	Preeti	R	Singh	60 Nehru Road, Pune, Maharashtra	6543210987	24	F
T0123456	Amit	٧	Desai	70 Shivaji Park, Mumbai, Maharashtra	5432109876	33	М
U1234567	Anjali	К	Rao	80 Ashoka Road, Chennai, Tamil Nadu	4321098765	26	F
V2345678	Deepak	s	Agarwal	90 Station Road, Kolkata, West Bengal	3210987654	39	М
W3456789	Kavita	М	Shah	100 Jayanagar, Bangalore, Karnataka	2109876543	30	F
X4567890	Sachin	N	Nair	110 MG Road, Hyderabad, Telangana	1098765432	32	М
Y5678901	Meera	Р	Iyer	120 Gandhi Road, Mumbai, Maharashtra	9876543210	28	F
Z6789012	Alok	D	Singh	130 5th Cross, New Delhi, Delhi	8765432109	35	М
A7890123	Shruti	R	Nair	140 2nd Main Road, Chennai, Tamil Nadu	7654321098	27	F
B8901234	Amitabh	К	Banerjee	150 Surya Nagar, Kolkata, West Bengal	6543210987	41	М
C9012345	Rahul	М	Sharma	160 Gandhi Nagar, Mumbai, Maharashtra	5432109876	29	М
D0123456	Neha	S	Srivastava	170 4th Main Road, Hyderabad, Telangana	4321098765	25	F
E1234567	Vikram	В	Jha	180 Mahatma Gandhi Road, New Delhi, Delhi	3210987654	38	М
F2345678	Kiran	Р	Kumar	190 6th Cross, Bangalore, Karnataka	2109876543	31	F
H4567890	Divya	G	Nair	200 Gandhi Road, Mumbai, Maharashtra	1098765432	26	F
15678901	Aryan	S	Shah	210 Station Road, Jaipur, Rajasthan	9876543210	30	М
J6789012	Anjali	N	Kapoor	220 Nehru Road, Bangalore, Karnataka	8765432109	29	F
K7890123	Rohit	R	Sharma	230 MG Road, Mumbai, Maharashtra	7654321098	32	М

TICKET

FLIGHT_NUMBER	SOURCE	DESTINATION	DATE_OF_TRAVEL	SEATNO	CLASS	PASSPORTNO	PRICE
AI103	Delhi	Mumbai	01-APR-23	15A	Economy	K1234567	5000
AI103	Delhi	Mumbai	01-APR-23	3B	Business	05678901	15000
AI340	Mumbai	Hyderabad	07-APR-23	20C	Economy	L2345678	7000
AI222	Delhi	Kolkata	03-APR-23	8D	Business	Q7890123	12000
SG737	Bengaluru	Mumbai	02-APR-23	4B	Economy	D0123456	4500
UK456	Delhi	Chennai	08-APR-23	10F	Economy	M9012345	3500
AI123	Hyderabad	Delhi	15-APR-23	12A	Economy	Y5678901	5500
6E251	Chennai	Hyderabad	02-APR-23	19C	Economy	U1234567	6300
AI101	Mumbai	Delhi	01-APR-23	7D	Business	S9012345	15000
6E825	Bengaluru	Kolkata	09-APR-23	22F	Business	N4567890	24000
SG543	Kolkata	Jaipur	14-APR-23	11B	Economy	R8901234	5500
6E890	Bengaluru	Mumbai	13-APR-23	5A	Business	M3456789	10500
6E901	Kolkata	Pune	17-APR-23	14D	Economy	P6789012	7500
UK793	Chennai	Mumbai	04-APR-23	20E	Economy	S9012345	7800
6E415	Chennai	Bengaluru	02-APR-23	8D	Business	V2345678	11000

Employee Salary >= 90000

SSN	FNAME	М	LNAME
345678901	Amit	R	Verma
901234567	Alok	В	Singh
567890124	Amitabh	S	Bose
234567892	Priyanka	K	Gandhi

SELECT SSN, FNAME, M, LNAME FROM EMPLOYEE WHERE SALARY >= 90000

No of delayed Flights

COUNT(STATUS)

9

SELECT COUNT(STATUS)
FROM FLIGHT
WHERE STATUS = 'DELAYED'

Connecting Flights

FLIGHTCODE	SOURCE	DESTINATION	ARRIVAL	DEPARTURE	STATUS	DURATION	LAYOVERTIME	N00FST0PS
SG704	Delhi	Hyderabad	03-APR-23	03-APR-23	On time	210	60	1
6E251	Chennai	Hyderabad	02-APR-23	02-APR-23	Delayed	105	60	1
AI532	Mumbai	Delhi	05-APR-23	05-APR-23	Delayed	160	60	1
AI951	Delhi	Hyderabad	08-APR-23	08-APR-23	Delayed	160	30	1
UK456	Delhi	Chennai	08-APR-23	08-APR-23	Delayed	155	30	1
SG901	Pune	Delhi	10-APR-23	10-APR-23	On Time	135	60	1
UK567	Chennai	Ahmedabad	12-APR-23	12-APR-23	On Time	150	30	1
AI123	Hyderabad	Delhi	15-APR-23	15-APR-23	On Time	160	45	1
6E901	Kolkata	Pune	17-APR-23	17-APR-23	On Time	185	30	1
AI456	Delhi	Bangalore	19-APR-23	18-APR-23	Delayed	210	45	1

SELECT *
FROM FLIGHT
WHERE NOOFSTOPS > 0

Flights from Mumbai to Delhi

FLIGHTCODE	SOURCE	DESTINATION	ARRIVAL	DEPARTURE	STATUS	DURATION	LAYOVERTIME	NOOFSTOPS
AI101	Mumbai	Resize Code I	Editor APR-23	01-APR-23	On time	150	-	0
AI532	Mumbai	Delhi	05-APR-23	05-APR-23	Delayed	160	60	1
AI898	Mumbai	Delhi	01-APR-23	01-APR-23	On time	150	-	0

SELECT *
FROM FLIGHT
WHERE SOURCE = 'MUMBAI'
AND DESTINATION = 'DELHI'

Flights with duration in between 120 and 150

FLIGHTCODE	SOURCE	DESTINATION	ARRIVAL	DEPARTURE	STATUS	DURATION	LAYOVERTIME	NOOFSTOPS
AI101	Mumbai	Delhi	01-APR-23	01-APR-23	On time	150	_	0
6E552	Bangalore	Chennai	02-APR-23	02-APR-23	Delayed	120	-	0
UK793	Chennai	Mumbai	04-APR-23	04-APR-23	On time	135	-	0
UK723	Bengaluru	Mumbai	04-APR-23	04-APR-23	cancelled	150	-	0
AI222	Delhi	Kolkata	03-APR-23	03-APR-23	On Time	130	_	0
6E825	Bengaluru	Kolkata	09-APR-23	09-APR-23	On Time	150	-	0
AI898	Mumbai	Delhi	01-APR-23	01-APR-23	On time	150	_	0
AI103	Delhi	Mumbai	01-APR-23	01-APR-23	On Time	150	-	0
SG901	Pune	Delhi	10-APR-23	10-APR-23	On Time	135	60	1
UK567	Chennai	Ahmedabad	12-APR-23	12-APR-23	On Time	150	30	1
6E890	Bangalore	Mumbai	13-APR-23	13-APR-23	On Time	120	-	0
UK678	Chennai	Jaipur	16-APR-23	16-APR-23	On Time	120	_	0

SELECT *
FROM FLIGHT
WHERE DURATION BETWEEN 120 AND 150

Female Passengers

PASSPORTNO	FNAME	М	LNAME	ADDRESS	PHONE	AGE	SEX
L2345678	Neha	А	Chopra	12 6th Floor, New Delhi, Delhi	4321098765	25	F
N4567890	Nisha	S	Shah	25 1st Lane, Ahmedabad, Gujarat	2109876543	27	F
P6789012	Priya	S	Patel	30 Sardar Patel Road, Surat, Gujarat	9876543210	23	F
S9012345	Preeti	R	Singh	60 Nehru Road, Pune, Maharashtra	6543210987	24	F
U1234567	Anjali	К	Rao	80 Ashoka Road, Chennai, Tamil Nadu	4321098765	26	F
W3456789	Kavita	М	Shah	100 Jayanagar, Bangalore, Karnataka	2109876543	30	F
Y5678901	Meera	Р	Iyer	120 Gandhi Road, Mumbai, Maharashtra	9876543210	28	F
A7890123	Shruti	R	Nair	140 2nd Main Road, Chennai, Tamil Nadu	7654321098	27	F
D0123456	Neha	S	Srivastava	170 4th Main Road, Hyderabad, Telangana	4321098765	25	F
F2345678	Kiran	Р	Kumar	190 6th Cross, Bangalore, Karnataka	2109876543	31	F
H4567890	Divya	G	Nair	200 Gandhi Road, Mumbai, Maharashtra	1098765432	26	F
J6789012	Anjali	N	Kapoor	220 Nehru Road, Bangalore, Karnataka	8765432109	29	F
L8901234	Sunita	К	Singh	240 Ashoka Road, Chennai, Tamil Nadu	6543210987	25	F
N0123456	Anita	S	Gupta	260 Gandhi Nagar, Kolkata, West Bengal	4321098765	28	F
P2345678	Sanjana	М	Rao	280 1st Cross, Bangalore, Karnataka	2109876543	24	F

SELECT *
FROM PASSENGER
WHERE SEX = 'F'

Air India Flights

FLIGHTCODE	SOURCE	DESTINATION	ARRIVAL	DEPARTURE	STATUS	DURATION	LAYOVERTIME	N00FST0PS
AI101	Mumbai	Delhi	01-APR-23	01-APR-23	On time	150	-	0
AI103	Delhi	Mumbai	01-APR-23	01-APR-23	On Time	150	-	0
AI123	Hyderabad	Delhi	15-APR-23	15-APR-23	On Time	160	45	1
AI222	Delhi	Kolkata	03-APR-23	03-APR-23	On Time	130	-	0
AI234	Jaipur	Bangalore	11-APR-23	11-APR-23	Delayed	210	-	0
AI340	Mumbai	Hyderabad	07-APR-23	07-APR-23	On Time	155	-	0
AI456	Delhi	Bangalore	19-APR-23	18-APR-23	Delayed	210	45	1
AI532	Mumbai	Delhi	05-APR-23	05-APR-23	Delayed	160	60	1
AI898	Mumbai	Delhi	01-APR-23	01-APR-23	On time	150	-	0
AI951	Delhi	Hyderabad	08-APR-23	08-APR-23	Delayed	160	30	1

SELECT *
FROM FLIGHT
WHERE FLIGHTCODE
LIKE (SELECT CONCAT ((SELECT CODE FROM AIRLINE
WHERE AIRLINE_NAME = 'AIR INDIA'),'%')
FROM DUAL)

Flights from Maharashtra

FLIGHTCODE	SOURCE	DESTINATION	ARRIVAL	DEPARTURE	STATUS	DURATION	LAYOVERTIME	N00FST0PS
AI101	Mumbai	Delhi	01-APR-23	01-APR-23	On time	150	-	0
AI532	Mumbai	Delhi	05-APR-23	05-APR-23	Delayed	160	60	1
AI898	Mumbai	Delhi	01-APR-23	01-APR-23	On time	150	-	0
AI340	Mumbai	Hyderabad	07-APR-23	07-APR-23	On Time	155	-	0
SG901	Pune	Delhi	10-APR-23	10-APR-23	On Time	135	60	1

SELECT *
FROM FLIGHT
WHERE SOURCE IN
(SELECT CNAME FROM CITY WHERE STATE = 'MAHARASHTRA')

Avg Sales per Airline

AIRLINE_NAME	AVERAGE_SALES
Vistara	5650
SpiceJet	5000
IndiGo	11860
Air India	9916.6666666666666666666666666666666666

SELECT AIRLINE.AIRLINE_NAME, AVG(PRICE) AS AVERAGE_SALES FROM AIRLINE
INNER JOIN TICKET ON AIRLINE.CODE = SUBSTR(TICKET.FLIGHT_NUMBER, 1, 2)
GROUP BY AIRLINE.AIRLINE_NAME;

Passenger travelling in first class

AIRLINE_NAME	FIRST_CLASS_PASSENGERS				
IndiGo	3				
Air India	3				

SELECT AIRLINE_AIRLINE_NAME, COUNT(TICKET.CLASS) AS FIRST_CLASS_PASSENGERS FROM AIRLINE, TICKET
WHERE AIRLINE.CODE = SUBSTR(TICKET.FLIGHT_NUMBER, 1, 2) AND TICKET.CLASS = 'BUSINESS' GROUP BY AIRLINE_NAME;

Avg Traffic per airport

AP_NAME	CITY	AVG_TRAFFIC
Chhatrapati Shivaji InternatiOnal Airport	Mumbai	4
Sardar Vallabhbhai Patel InternatiOnal Airport	Ahmedabad	1
Pune InternatiOnal Airport	Pune	1
Netaji Subhas Chandra Bose InternatiOnal Airport	Kolkata	2
Rajiv Gandhi InternatiOnal Airport	Hyderabad	2
Ahmedabad InternatiOnal Airport	Ahmedabad	1
Indira Gandhi InternatiOnal Airport	Delhi	7
Hyderabad InternatiOnal Airport	Hyderabad	2
Kempegowda InternatiOnal Airport	Bangalore	2
Chennai InternatiOnal Airport	Chennai	6
Jaipur InternatiOnal Airport	Jaipur	1
Bengaluru InternatiOnal Airport	Bengaluru	4

SELECT AP_NAME, CITY, COUNT(FLIGHTCODE) AS AVG_TRAFFIC FROM AIRPORT, FLIGHT
WHERE SOURCE = CITY
GROUP BY AP_NAME, CITY;

