PROJECT ASSIGNMENT



Course: Relational Databases

Topic: Database for Airport

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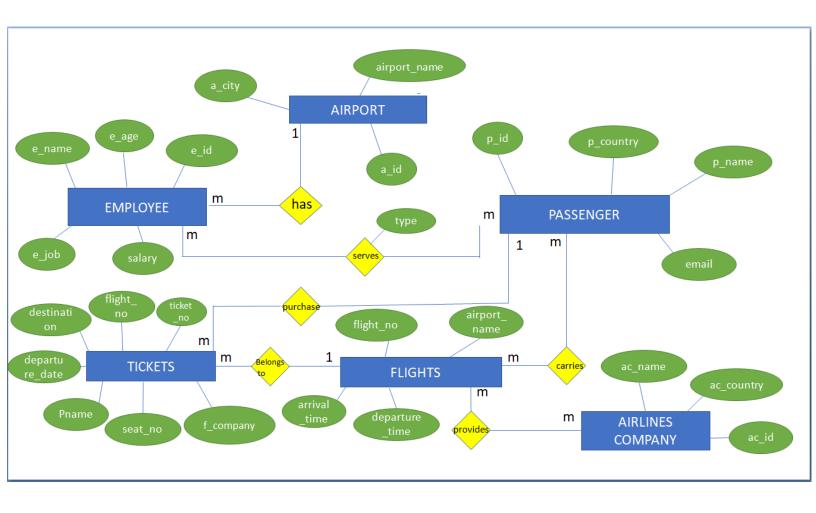
INTRODUCTION:

We created a simple database for Airport. The main goal is to understand the main functionalities of working with databases in SQL and to get familiar with the practical use of databases for working with data.

To create the ER diagram we for the airport database we followed the following data collection requirements:

- For the airport data for the name, city and airport's unique id are stored.
- For each employee, the database must keep track of a unique employee identifier, his/her name, his/her age, job position of the employee and salary.
- For each passenger, the database must keep track of a unique passenger identifier, his/her name, the email address of the passenger and the country of the passenger.
- For each ticket, the database must keep track of the ticket's number, the flight number, the name of the passenger to whom the ticket belongs, number of seat, the name of the Airlines Flight Company, the departure date and the destination.
- For each flight, the database must keep track of a unique flight number, the arrival time of the flight, the departure time of the flight, and the name of the Airport from where the flight departures.
- For each Airlines Company, the database must keep track of the unique company identifier, the name of the company and the country where the company is located.
 - ➤ One airport has many employees, but each employee works at only one airport.
 - ➤ Many employees serve many passengers and many passengers can receive services from many employees.
 - ➤ One passenger might still have not bought a ticket, but also one passenger can have one or many tickets.
 - ➤ Many tickets can belong to the same flight but each ticket is only for a one flight.
 - ➤ One flight carries many passengers and one passenger can fly one or more times.
 - ➤ One airline company provides many flights, many flights can belong to one airlines company, but can also belong to many.

ENTITY-RELATIONSHIP DIAGRAM:



ENTITY-RELATIONSHIP MODEL:

AIRPORT (a-id, airport_name, a_city)

EMPLOYEE (e-id, a_id*,e_name, e_age, e_job, salary)

PASSENGER (p-id, p_country, p_name, email)

TICKETS (<u>ticket-no, p_id*, flight_no*,</u>destination, departure_date, Pname, seat_no, f_company)

FLIGHTS (flight-no, airport_name, arrival_time, departure_time)

AIRLINES_COMPANY (ac-id, ac_name, ac_country)

SERVES (<u>e-id*</u>, a_id * p-id*, type)

CARRIES (flight-no*, p-id*)

PROVIDES (flight-no*, ac-id*)

CREATING TABLES AND INSERTING VALUES

```
CREATE DATABASE Airport Official;
USE Airport_Official;
CREATE TABLE AIRPORT
a id NUMERIC(3) NOT NULL CONSTRAINT a id pk PRIMARY KEY,
a name VARCHAR(50),
a city VARCHAR(50)
);
INSERT INTO AIRPORT VALUES
(306, 'St.Paul the Apostle', 'Ohrid');
INSERT INTO AIRPORT VALUES
(524, 'Skopje International Airport', 'Skopje');
INSERT INTO AIRPORT VALUES
(179, 'Nikola Tesla', 'Belgrade');
INSERT INTO AIRPORT VALUES
(613, 'Miami International Airport', 'Miami');
INSERT INTO AIRPORT VALUES
(715, 'Melbourne Airport', 'Melbourne');
INSERT INTO AIRPORT VALUES
(638, 'Istanbul Airport', 'Istanbul');
INSERT INTO AIRPORT VALUES
(356, 'Paris Charles de Gaulle Airport', 'Paris');
INSERT INTO AIRPORT VALUES (578, 'Dubai International Airport',
'Dubai');
```

```
SELECT * FROM AIRPORT;
```

	a_id	a_name	a_city
1	179	Nikola Tesla	Belgrade
2	306	St.Paul the Apostle	Ohrid
3	356	Paris Charles de Gaulle Airport	Paris
4	524	Skopje International Airport	Skopje
5	578	Dubai International Airport	Dubai
6	613	Miami International Airport	Miami
7	638	Istanbul Airport	Istanbul
8	715	Melbourne Airport	Melbourne

```
CREATE TABLE EMPLOYEE
e_id NUMERIC(4) IDENTITY NOT NULL,
a_id NUMERIC(3) NOT NULL REFERENCES AIRPORT(a id),
e name VARCHAR(100),
e age NUMERIC(2),
e_job VARCHAR(500),
salary MONEY,
CONSTRAINT emp a id pk PRIMARY KEY(e id, a id)
);
INSERT INTO EMPLOYEE VALUES
(306, 'Nikola Siljanoski', 36, 'Airline Ticket Agent', 700);
INSERT INTO EMPLOYEE VALUES
(306, 'Marija Mileska', 24, 'Avionics Technician', 1500);
INSERT INTO EMPLOYEE VALUES
(715, 'Jerome Shawns', 45, 'Pilot', 4500);
INSERT INTO EMPLOYEE VALUES
(306, 'Emanuela Mileska', 25, 'Air Traffic Controller', 2000);
INSERT INTO EMPLOYEE VALUES(306, 'Mihaela Markuleska', 30, 'Air Traffic
Controller', 2000);
INSERT INTO EMPLOYEE VALUES(179, 'Andrija Trajkovic', 28, 'Air Traffic
Controller', 2700);
```

```
INSERT INTO EMPLOYEE VALUES(179, 'Marina Veselinovic', 31, 'Airline
Ticket Agent', 1700);
INSERT INTO EMPLOYEE VALUES(179, 'Ana Antic', 25, 'Passenger Service
Agent', 1500);
INSERT INTO EMPLOYEE VALUES(524, 'Darko Nikoloski', 29, 'Airport
Manager', 4000);
INSERT INTO EMPLOYEE VALUES(613, 'Helen O Connor', 32, 'Airport
Manager', 4800);
INSERT INTO EMPLOYEE VALUES(613, 'Amanda Rowland', 40, 'Air Traffic
Controller', 2700);
INSERT INTO EMPLOYEE VALUES(715, 'Nick Zapta', 24, 'Airline Ticket
Agent', 2560);
INSERT INTO EMPLOYEE VALUES(306, 'Leonid Nikoloski',
25, 'Transportation Security Screener', 1000);
INSERT INTO EMPLOYEE VALUES(578, 'Abdul Rahman', 35, 'Airline Ticket
Agent', 850);
INSERT INTO EMPLOYEE VALUES(578, 'Husnie Hamid', 24, 'Airport
Manager', 2400);
INSERT INTO EMPLOYEE VALUES(578, 'Hadisa Ursus', 30, 'Transportation
Security Screener',1200);
INSERT INTO EMPLOYEE VALUES(578, 'Aladin Rahman', 46, 'Airline Ticket
Agent', 900);
INSERT INTO EMPLOYEE VALUES(578, 'Jair Muhau', 36, 'Airport Manager',
3000);
INSERT INTO EMPLOYEE VALUES(613, 'Sarah Smith', 26, 'Passenger Service
Agent', 1350);
INSERT INTO EMPLOYEE VALUES(613, 'Mia Gerber', 28, 'Passenger Service
Agent', 1700);
INSERT INTO EMPLOYEE VALUES(613, 'Marcus Johns', 29, 'Air Traffic
Controller', 1960);
INSERT INTO EMPLOYEE VALUES(356, 'Pia Peters', 30, 'Airline Ticket
Agent', 1900);
INSERT INTO EMPLOYEE VALUES(356, 'Susan Michel', 27, 'Passenger'
Service Agent', 1400);
INSERT INTO EMPLOYEE VALUES(356, 'Nicolia Ombre', 40, 'Avionics
Technician', 1400);
INSERT INTO EMPLOYEE VALUES(356, 'Nicolia Michel', 37, 'Passenger
Service Agent', 1400);
INSERT INTO EMPLOYEE VALUES(356, 'Laura Olive', 48, 'Transportation
Security Screener', 1400);
INSERT INTO EMPLOYEE VALUES(356, 'Olivia Beths', 25, 'Airline Ticket
Agent', 1400);
INSERT INTO EMPLOYEE VALUES(524, 'Nada Angeleska', 40 ,'Airline Ticket
Agent', 890);
INSERT INTO EMPLOYEE VALUES(524, 'Jovan Meceski', 39, 'Passenger
Service Agent', 1400);
```

```
INSERT INTO EMPLOYEE VALUES(524, 'Jovana Risteska', 43, 'Airport
Manager', 2400);
INSERT INTO EMPLOYEE VALUES(524, 'Teodor Mihajloski', 28,
'Transportation Security Screener', 900);
INSERT INTO EMPLOYEE VALUES(524, 'Krste Naumoski', 37, 'Transportation
Security Screener', 900);
INSERT INTO EMPLOYEE VALUES(524, 'Elena Jovanova', 28, 'Airline Ticket
Agent', 1200);
INSERT INTO EMPLOYEE VALUES(179, 'Tamara Milanovic', 38, 'Airline
Ticket Agent', 1300);
INSERT INTO EMPLOYEE VALUES(179, 'Petar Koncarevic', 30, 'Airline
Ticket Agent', 1300);
INSERT INTO EMPLOYEE VALUES(179, 'Valentina Kovac', 30, 'Passenger
Service Agent', 1500);
INSERT INTO EMPLOYEE VALUES(179, 'Stefan Matic', 26, 'Avionics
Technician', 2500);
INSERT INTO EMPLOYEE VALUES(638, 'Azra Celen', 25, 'Air Traffic
Controller', 2800);
INSERT INTO EMPLOYEE VALUES(638, 'Sumru Gjunesh', 45, 'Airline Ticket
Agent', 1800);
INSERT INTO EMPLOYEE VALUES(638, 'Dzenk Celen', 28, 'Airport Manager',
INSERT INTO EMPLOYEE VALUES(638, 'Feride Tekin', 48, 'Passenger
Service Agent', 1600);
```

SELECT * FROM EMPLOYEE;

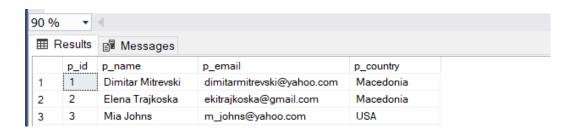
	e_id	a_id	e_name	e_age	e_job	salary
1	1	306	Nikola Siljanoski	36	Airline Ticket Agent	700.00
2	2	306	Marija Mileska	24	Avionics Technician	1500.00
3	3	715	Jerome Shawns	45	Pilot	4500.00
4	4	306	Emanuela Mileska	25	Air Traffic Controller	2000.00
5	5	306	Mihaela Markuleska	30	Air Traffic Controller	2000.00
6	6	179	Andrija Trajkovic	28	Air Traffic Controller	2700.00
7	7	179	Marina Veselinovic	31	Airline Ticket Agent	1700.00
8	8	179	Ana Antic	25	Passenger Service Agent	1500.00
9	9	524	Darko Nikoloski	29	Airport Manager	4000.00
10	10	613	Helen O Connor	32	Airport Manager	4800.00
11	11	613	Amanda Rowland	40	Air Traffic Controller	2700.00
12	12	715	Nick Zapta	24	Airline Ticket Agent	2560.00
13	13	306	Leonid Nikoloski	25	Transportation Security Screener	1000.00
14	14	578	Abdul Rahman	35	Airline Ticket Agent	850.00
15	15	578	Husnie Hamid	24	Airport Manager	2400.00
16	16	578	Hadisa Ursus	30	Transportation Security Screener	1200.00
17	17	578	Aladin Rahman	46	Airline Ticket Agent	900.00
18	18	578	Jair Muhau	36	Airport Manager	3000.00
19	19	613	Sarah Smith	26	Passenger Service Agent	1350.00
20	20	613	Mia Gerber	28	Passenger Service Agent	1700.00
21	21	613	Marcus Johns	29	Air Traffic Controller	1960.00
22	22	356	Pia Peters	30	Airline Ticket Agent	1900.00
23	23	356	Susan Michel	27	Passenger Service Agent	1400.00
24	24	356	Nicolia Ombre	40	Avionics Technician	1400.00
25	25	356	Nicolia Michel	37	Passenger Service Agent	1400.00
26	26	356	Laura Olive	48	Transportation Security Screener	1400.00
27	27	356	Olivia Beths	25	Airline Ticket Agent	1400.00
28	28	524	Nada Angeleska	40	Airline Ticket Agent	890.00
29	29	524	Jovan Meceski	39	Passenger Service Agent	1400.00
30	30	524	Jovana Risteska	43	Airport Manager	2400.00
31	31	524	Teodor Mihajloski	28	Transportation Security Screener	900.00
32	32	524	Krste Naumoski	37	Transportation Security Screener	900.00
33	33	524	Elena Jovanova	28	Airline Ticket Agent	1200.00
34	34	179	Tamara Milanovic	38	Airline Ticket Agent	1300.00
35	35	179	Petar Koncarevic	30	Airline Ticket Agent	1300.00
36	36	179	Valentina Kovac	30	Passenger Service Agent	1500.00

37	37	179	Stefan Matic	26	Avionics Technician	2500.00
38	38	638	Azra Celen	25	Air Traffic Controller	2800.00
39	39	638	Sumru Gjunesh	45	Airline Ticket Agent	1800.00
40	40	638	Dzenk Celen	28	Airport Manager	3800.00
41	41	638	Feride Tekin	48	Passenger Service Agent	1600.00

```
CREATE TABLE PASSENGER
p id NUMERIC(5) IDENTITY NOT NULL CONSTRAINT p id pk PRIMARY KEY,
p name VARCHAR(100),
p email VARCHAR(50),
p_country VARCHAR(60),
INSERT INTO PASSENGER VALUES('Dimitar Mitrevski',
'dimitarmitrevski@yahoo.com', 'Macedonia');
INSERT INTO PASSENGER VALUES('Elena Trajkoska',
'ekitrajkoska@gmail.com', 'Macedonia');
INSERT INTO PASSENGER VALUES('Mia Johns', 'm_johns@yahoo.com', 'USA');
INSERT INTO PASSENGER VALUES('Michael Gray', 'm.gray@gmail.com',
'Canada');
INSERT INTO PASSENGER VALUES('Mahmud Orhan', 'mahmud_orhan@gmail.com',
INSERT INTO PASSENGER VALUES('Mike Delfino', 'mikedelfino@yahoo.com',
'Mexico');
INSERT INTO PASSENGER VALUES('Susan Mayer', 'susie.mayer@gmail.com',
'Germany');
INSERT INTO PASSENGER VALUES('Carlos Solis', 'soliscarlos@gmail.com',
'Spain');
INSERT INTO PASSENGER VALUES('Bree Van de Kamp', 'breevdk@gmail.com',
'The Netherlands');
INSERT INTO PASSENGER VALUES('Vanessa Williams',
'vanessawithv@yahoo.com', 'United Kingdom');
INSERT INTO PASSENGER VALUES('Norma John', 'norma.john@gmail.com',
'Finland');
INSERT INTO PASSENGER VALUES('Kristina Popovic',
'kikipopstar@yahoo.com', 'Serbia');
INSERT INTO PASSENGER VALUES('Rebeka Jankoska',
'rebela jankoska@yahoo.com', 'Macedonia');
INSERT INTO PASSENGER VALUES('Silas Metzger',
'silas.metzger@gmail.com', 'Germany');
INSERT INTO PASSENGER VALUES('Sarah Pitt', 'sarah.pitt@gmail.com',
'Germany');
```

```
INSERT INTO PASSENGER VALUES('Kate Laurenson',
'kate_laurenson@yahoo.com', 'Germany');
INSERT INTO PASSENGER VALUES('Pia Linoda', 'pia linoda@yahoo.com',
INSERT INTO PASSENGER VALUES('Sofia Richie', 'sofia_richie@yahoo.com',
'France');
INSERT INTO PASSENGER VALUES('Emanuel Macron',
'emanuel macron@yahoo.com', 'France');
INSERT INTO PASSENGER VALUES('Hamid Abduli', 'hamid abduli@yahoo.com',
INSERT INTO PASSENGER VALUES ('Mohamed Hadid',
'mohamed hadid@gmail.com', 'UAE');
INSERT INTO PASSENGER VALUES('Bella Hadid', 'bella hadid@yahoo.com',
'USA');
INSERT INTO PASSENGER VALUES('Gigi Hadid', 'gigi.hadid@yahoo.com',
INSERT INTO PASSENGER VALUES('Selena Gomez', 'selena domez@yahoo.com',
'USA');
INSERT INTO PASSENGER VALUES('Angelina Davis',
'angelina.davis@gmail.com', 'UK');
INSERT INTO PASSENGER VALUES('Brent Riviera',
'brent.riviera@gmail.com', 'UK');
INSERT INTO PASSENGER VALUES('Eva Mendes', 'eva mendes@gmail.com',
'UK');
INSERT INTO PASSENGER VALUES('Anne Heathaway',
'anne heathaway@yahoo.com', 'Australia');
INSERT INTO PASSENGER VALUES('Nicolas Smith',
'nicolas.smith@yahoo.com', 'Australia');
INSERT INTO PASSENGER VALUES('Laura Henson', 'laura.henson@yahoo.com',
'Australia');
INSERT INTO PASSENGER VALUES('Sao Jeng', 'sao_jeng@yahoo.com',
'Japan');
INSERT INTO PASSENGER VALUES('Pijong Kjang', 'pijong_kjang@gmail.com',
'Japan');
INSERT INTO PASSENGER VALUES('Songjul Kadis',
'songlul kadis@gmail.com', 'Turkey');
INSERT INTO PASSENGER VALUES('Jason Kolea', 'jason kolea@yahoo.com',
'Japan');
INSERT INTO PASSENGER VALUES('Mert Gjunesh', 'mert.gjunesh@gmail.com',
'Turkey');
INSERT INTO PASSENGER VALUES('Miranda Kerr', 'miranda_kerr@yahoo.com',
'Canada');
INSERT INTO PASSENGER VALUES('Ramis Tekin', 'ramis.tekin@gmail.com',
'Turkey');
INSERT INTO PASSENGER VALUES('Kendal Jenner',
'kendal jenner@yahoo.com', 'Canada');
```

```
INSERT INTO PASSENGER VALUES('Sassie Romerts',
'sassie_roberts@gmail.com', 'Australia');
INSERT INTO PASSENGER VALUES ('Aliriza Tekin',
'aliriza tekin@gmail.com', 'Turkey');
INSERT INTO PASSENGER VALUES('Anja Trzan', 'anja.trzan@gmail.com',
'Serbia');
INSERT INTO PASSENGER VALUES('Borko Ristovski',
'borko ristovski@yahoo.com', 'Macedonia');
INSERT INTO PASSENGER VALUES('Jelena Tomasevic',
'jelena_tomasevic@yahoo.com', 'Serbia');
INSERT INTO PASSENGER VALUES ('Antonia Gigovska',
'antonia gigovska@yahoo.com', 'Macedonia');
INSERT INTO PASSENGER VALUES('Kia Kockar', 'kia kockar@gmail.com',
'Serbia');
INSERT INTO PASSENGER VALUES('Kia Kockar', 'kia kockar@gmail.com',
'Serbia');
INSERT INTO PASSENGER VALUES('David Bendisch',
'david bendisch@yahoo.com', 'Germany');
INSERT INTO PASSENGER VALUES('Leona Todoroska',
'leona todoroska@yahoo.com', 'Macedonia');
INSERT INTO PASSENGER VALUES('Isabella Klein',
'isabella.klein@gmail.com', 'Germany');
SELECT * FROM PASSENGER;
```



	p_id	p_name	p_email	p_country
4	4	Michael Gray	m.gray@gmail.com	Canada
5	5	Mahmud Orhan	mahmud_orhan@gmail.com	UAE
6	6	Mike Delfino	mikedelfino@yahoo.com	Mexico
7	7	Susan Mayer	susie.mayer@gmail.com	Germany
8	8	Carlos Solis	soliscarlos@gmail.com	Spain
9	9	Bree Van de K	breevdk@gmail.com	The Neth
10	10	Vanessa Willia	vanessawithv@yahoo.com	United Ki
11	11	Norma John	norma.john@gmail.com	Finland
12	12	Kristina Popovic	kikipopstar@yahoo.com	Serbia
13	13	Rebeka Janko	rebela_jankoska@yahoo.c	Macedonia
14	14	Silas Metzger	silas.metzger@gmail.com	Germany
15	15	Sarah Pitt	sarah.pitt@gmail.com	Germany
16	16	Kate Laurenson	kate_laurenson@yahoo.com	Germany
17	17	Pia Linoda	pia_linoda@yahoo.com	France
18	18	Sofia Richie	sofia_richie@yahoo.com	France
19	19	Emanuel Macr	emanuel_macron@yahoo	France
20	20	Hamid Abduli	hamid_abduli@yahoo.com	UAE
21	21	Mohamed Had	mohamed_hadid@gmail.c	UAE
22	22	Bella Hadid	bella_hadid@yahoo.com	USA
23	23	Gigi Hadid	gigi.hadid@yahoo.com	USA
24	24	Selena Gomez	selena_domez@yahoo.com	USA
25	25	Angelina Davis	angelina.davis@gmail.com	UK
26	26	Brent Riviera	brent.riviera@gmail.com	UK
27	27	Eva Mendes	eva_mendes@gmail.com	UK
28	28	Anne Heathaway	anne_heathaway@yahoo.c	Australia
29	29	Nicolas Smith	nicolas.smith@yahoo.com	Australia
30	30	Laura Henson	laura.henson@yahoo.com	Australia
31	31	Sao Jeng	sao_jeng@yahoo.com	Japan
32	32	Pijong Kjang	pijong_kjang@gmail.com	Japan
33	33	Songjul Kadis	songlul_kadis@gmail.com	Turkey
34	34	Jason Kolea	jason_kolea@yahoo.com	Japan
35	35	Mert Gjunesh	mert.gjunesh@gmail.com	Turkey
36	36	Miranda Kerr	miranda_kerr@yahoo.com	Canada
37	37	Ramis Tekin	ramis.tekin@gmail.com	Turkey
38	38	Kendal Jenner	kendal_jenner@yahoo.com	Canada
39	39	Sassie Romerts	sassie_roberts@gmail.com	Australia

40	40	Aliriza Tekin	aliriza_tekin@gmail.com	Turkey
41	41	Anja Trzan	anja.trzan@gmail.com	Serbia
42	42	Borko Ristovski	borko_ristovski@yahoo.com	Macedonia
43	43	Jelena Tomas	jelena_tomasevic@yahoo.c	Serbia
44	44	Antonia Gigovs	antonia_gigovska@yahoo.c	Macedonia
45	45	Kia Kockar	kia_kockar@gmail.com	Serbia
46	46	Kia Kockar	kia_kockar@gmail.com	Serbia
47	47	David Bendisch	david_bendisch@yahoo.com	Germany
48	48	Leona Todoros	leona_todoroska@yahoo.c	Macedonia
49	49	Isabella Klein	isabella.klein@gmail.com	Germany

```
CREATE TABLE FLIGHTS
flight no VARCHAR(5) NOT NULL CONSTRAINT flight no pk PRIMARY KEY,
deprature_time VARCHAR(5), /*TIME*/
arrival time VARCHAR(5), /*TIME*/
airport name VARCHAR(50),
);
INSERT INTO FLIGHTS VALUES('AB670', '17:05', '19:00', 'Nikola Tesla');
INSERT INTO FLIGHTS VALUES('EI919', '23:30', '06:45', 'St.Paul the
Apostle');
INSERT INTO FLIGHTS VALUES('RL975', '19:15', '22:30', 'Skopje
International Airport');
INSERT INTO FLIGHTS VALUES('RQ256', '05:30', '17:00', 'Miami
International Airport');
INSERT INTO FLIGHTS VALUES('SP919', '12:00', '16:00', 'St. Paul the
Apostle');
INSERT INTO FLIGHTS VALUES('UX133', '04:00', '11:35', 'Melbourne
Airport');
INSERT INTO FLIGHTS VALUES('DT254', '00:00', '07:45', 'Melbourne
Airport');
INSERT INTO FLIGHTS VALUES('YA541', '15:05', '17:40', 'Skopje
International Airport');
INSERT INTO FLIGHTS VALUES('TA178', '17:00', '23:40', 'Istanbul
Airport');
INSERT INTO FLIGHTS VALUES('AU478', '10:05', '17:40', 'Paris Cahrles
de Gaulle Airport');
INSERT INTO FLIGHTS VALUES('OX325', '15:00', '18:55', 'Dubai
International Airport');
INSERT INTO FLIGHTS VALUES('YA894', '11:25', '20:45', 'Dubai
International Airport');
```

```
INSERT INTO FLIGHTS VALUES('W0147', '19:30', '00:00', 'Dubai
International Airport');
INSERT INTO FLIGHTS VALUES('PQ481', '02:25', '15:40', 'Istanbul
Airport');
INSERT INTO FLIGHTS VALUES('OA582', '15:15', '18:40', 'Paris Cahrles
de Gaulle Airport');
INSERT INTO FLIGHTS VALUES('PF984', '14:15', '23:20', 'Paris Cahrles
de Gaulle Airport');
INSERT INTO FLIGHTS VALUES('MW654', '04:45', '13:00', 'Paris Cahrles
de Gaulle Airport');
UPDATE FLIGHTS SET airport_name='St. Paul the Apostle' WHERE flight_no
= 'EI919';
SELECT * FROM FLIGHTS;
```

	flight_no	deprature_time	arrival_time	airport_name
1	AB670	17:05	19:00	Nikola Tesla
2	AU478	10:05	17:40	Paris Cahrles de Gaulle Airport
3	DT254	00:00	07:45	Melbourne Airport
4	El919	23:30	06:45	St. Paul the Apostle
5	MW654	04:45	13:00	Paris Cahrles de Gaulle Airport
6	OA582	15:15	18:40	Paris Cahrles de Gaulle Airport
7	OX325	15:00	18:55	Dubai International Airport
8	PF984	14:15	23:20	Paris Cahrles de Gaulle Airport
9	PQ481	02:25	15:40	Istanbul Airport
10	RL975	19:15	22:30	Skopje International Airport
11	RQ256	05:30	17:00	Miami International Airport
12	SP919	12:00	16:00	St. Paul the Apostle
13	TA178	17:00	23:40	Istanbul Airport
14	UX133	04:00	11:35	Melbourne Airport
15	WO147	19:30	00:00	Dubai International Airport
16	YA541	15:05	17:40	Skopje International Airport
17	YA894	11:25	20:45	Dubai International Airport

```
CREATE TABLE TICKETS
```

```
ticket_no NUMERIC(5) NOT NULL,
flight_no VARCHAR(5) NOT NULL REFERENCES FLIGHTS (flight_no),
p_id NUMERIC(5) NOT NULL REFERENCES PASSENGER(p_id),
departure_date DATE,
seat_no VARCHAR(3),
f_company VARCHAR(30),
p_name VARCHAR(100),
destination VARCHAR(40),
```

```
CONSTRAINT ticket id pk PRIMARY KEY(ticket no, flight no, p id)
);
INSERT INTO TICKETS VALUES(35672, 'AB670', 3, '02-06-2021', '5E',
'Wizz Air', 'Mia Johns', 'Milano');
INSERT INTO TICKETS VALUES(56427, 'EI919', 1, '03-07-2021', '13A',
'Turkish Airlines', 'Dimitar Mitrevski', 'Istanbul');
INSERT INTO TICKETS VALUES(21564, 'SP919', 6, '04-16-2021', '1C',
'Emirates', 'Mike Delfino', 'Wisconsin');
INSERT INTO TICKETS VALUES(19484, 'UX133', 8, '05-03-2021', '22D',
'Turkish Airlines', 'Carlos Solis', 'New South Wales');
INSERT INTO TICKETS VALUES(78914, 'DT254', 7, '01-31-2021', '3A',
'Qantas', 'Susan Mayer', 'Perth');
INSERT INTO TICKETS VALUES(18471, 'YA541', 10, '01-22-2021', '1C',
'Wizz Air', 'Vanessa Williams', 'Athens');
INSERT INTO TICKETS VALUES(79165, 'EI919', 11, '03-07-2021', '14D',
'Turkish Airlines', 'Norma John', 'Istanbul');
INSERT INTO TICKETS VALUES(19484, 'MW654', 13, '02-14-2021', '14A',
'Lufthansa', 'Rebeka Jankoska', 'Nairobi');
INSERT INTO TICKETS VALUES(48961, 'PF984', 14, '02-18-2021',
'7C', 'Qantas', 'Silas Metzger', 'Tashkent');
INSERT INTO TICKETS VALUES(56427, 'OA582',15, '03-01-
2021', '22B', 'Emirates', 'Sarah Pitt', 'Berlin');
INSERT INTO TICKETS VALUES(21564, 'AB670', 18, '02-06-2021', '1A', 'Wizz
Air','Sofia Richie', 'Milano');
INSERT INTO TICKETS VALUES (19484, 'PQ481', 19, '04-04-2021', '18E',
'Lufthansa', 'Emanuel Macron', 'Lisbon');
INSERT INTO TICKETS VALUES(84164, 'W0147',23, '03-07-2021',
'25B', 'Turkish Airlines', 'Gigi Hadid', 'Istanbul');
INSERT INTO TICKETS VALUES(98741, 'YA894',24, '02-21-2021','15C',
'Emirates','Selena Gomez', 'Torronto');
INSERT INTO TICKETS VALUES (64130, '0X325', 25, '01-30-
2021','5B','Qantas','Angelina Davis', 'Dublin');
INSERT INTO TICKETS VALUES(97463, 'AU478', 28, '03-31-
2021', '30B', 'Turkish Airlines', 'Anne Heathaway', 'Brisbane');
INSERT INTO TICKETS VALUES(88791, 'TA178', 32, '04-16-2021', '29A',
'Emirates', 'Pijong Kjang', 'Mumbai');
INSERT INTO TICKETS VALUES(03201, 'W0147', 33, '03-07-
2021', '13B', 'Turkish Airlines', 'Songjul Kadis', 'Istanbul');
INSERT INTO TICKETS VALUES(98104, 'MW654', 38, '02-17-
2021', '2D', 'Lufthansa', 'Kendal Jenner', 'Nairobi');
INSERT INTO TICKETS VALUES (34891, '0X325', 42, '01-30-
2021', '21A', 'Qantas', 'Borko Ristovski', 'Dublin');
INSERT INTO TICKETS VALUES(12345, 'TA178', 43, '04-16-
2021', '11E', 'Emirates', 'Jelena Tomasevic', 'Mumbai');
```

```
INSERT INTO TICKETS VALUES(99881,'W0147',45, '03-07-
2021','20D','Turkish Airlines', 'Kia Kockar', 'Istanbul');
INSERT INTO TICKETS VALUES(33348, 'PQ481',49, '04-04-
2021','26C','Lufthansa','Isabella Klein', 'Lisbon');
SELECT * FROM TICKETS;
```

	ticket_no	flight_no	p_id	departure_date	seat_no	f_company	p_name	destination
1	3201	WO147	33	2021-03-07	13B	Turkish Airlines	Songjul Kadis	Istanbul
2	12345	TA178	43	2021-04-16	11E	Emirates	Jelena Tomasevic	Mumbai
3	18471	YA541	10	2021-01-22	1C	Wizz Air	Vanessa Williams	Athens
4	19484	MW654	13	2021-02-14	14A	Lufthansa	Rebeka Jankoska	Nairobi
5	19484	PQ481	19	2021-04-04	18E	Lufthansa	Emanuel Macron	Lisbon
6	19484	UX133	8	2021-05-03	22D	Turkish Airlines	Carlos Solis	New South Wales
7	21564	AB670	18	2021-02-06	1A	Wizz Air	Sofia Richie	Milano
8	21564	SP919	6	2021-04-16	1C	Emirates	Mike Delfino	Wisconsin
9	33348	PQ481	49	2021-04-04	26C	Lufthansa	Isabella Klein	Lisbon
10	34891	OX325	42	2021-01-30	21A	Qantas	Borko Ristovski	Dublin
11	35672	AB670	3	2021-02-06	5E	Wizz Air	Mia Johns	Milano
12	48961	PF984	14	2021-02-18	7C	Qantas	Silas Metzger	Tashkent
13	56427	EI919	1	2021-03-07	13A	Turkish Airlines	Dimitar Mitrevski	Istanbul
14	56427	OA582	15	2021-03-01	22B	Emirates	Sarah Pitt	Berlin
15	64130	OX325	25	2021-01-30	5B	Qantas	Angelina Davis	Dublin
16	78914	DT254	7	2021-01-31	3A	Qantas	Susan Mayer	Perth
17	79165	EI919	11	2021-03-07	14D	Turkish Airlines	Norma John	Istanbul
18	84164	WO147	23	2021-03-07	25B	Turkish Airlines	Gigi Hadid	Istanbul
19	88791	TA178	32	2021-04-16	29A	Emirates	Pijong Kjang	Mumbai
20	97463	AU478	28	2021-03-31	30B	Turkish Airlines	Anne Heathaway	Brisbane
21	98104	MW654	38	2021-02-17	2D	Lufthansa	Kendal Jenner	Nairobi
22	98741	YA894	24	2021-02-21	15C	Emirates	Selena Gomez	Torronto
23	99881	WO147	45	2021-03-07	20D	Turkish Airlines	Kia Kockar	Istanbul

```
CREATE TABLE AIRLINES_COMPANY
(
ac_id NUMERIC(2) IDENTITY NOT NULL CONSTRAINT ac_id_pk PRIMARY KEY,
ac_name VARCHAR (50),
ac_country VARCHAR(60),
);
INSERT INTO AIRLINES_COMPANY VALUES('Emirates', 'UAE');
```

```
INSERT INTO AIRLINES_COMPANY VALUES('Qantas', 'Australia');
INSERT INTO AIRLINES_COMPANY VALUES('Turkish Airlines', 'Turkey');
INSERT INTO AIRLINES_COMPANY VALUES('Lufthansa', 'Germany');
INSERT INTO AIRLINES_COMPANY VALUES('Wizz Air', 'Hungary');
SELECT * FROM AIRLINES_COMPANY;
```

	ac_id	ac_name	ac_country
1	1	Emirates	UAE
2	2	Qantas	Australia
3	3	Turkish Airlines	Turkey
4	4	Lufthansa	Germany
5	5	Wizz Air	Hungary

```
CREATE TABLE SERVES
e id NUMERIC(4),
a id NUMERIC(3),
type VARCHAR(50),
p id NUMERIC(5) NOT NULL REFERENCES PASSENGER(p id),
CONSTRAINT serves id fk FOREIGN KEY (e id, a id) REFERENCES
EMPLOYEE(e id, a id),
CONSTRAINT serves_id_pk PRIMARY KEY(e_id, a_id, p_id)
);
INSERT INTO SERVES VALUES(1, 306, 'Service 1', 1 );
INSERT INTO SERVES VALUES(2, 306, 'Service 2', 3);
INSERT INTO SERVES VALUES(14, 578, 'Service 3', 10);
INSERT INTO SERVES VALUES(6, 179, 'Service 4', 9);
INSERT INTO SERVES VALUES(8, 179, 'Service 2', 12);
INSERT INTO SERVES VALUES(9, 524, 'Service 4', 4);
INSERT INTO SERVES VALUES(12, 715, 'Service 1', 33);
INSERT INTO SERVES VALUES(14, 578, 'Service 4', 49);
INSERT INTO SERVES VALUES(20, 613, 'Service 2', 38);
INSERT INTO SERVES VALUES(25, 356, 'Service 1', 14);
INSERT INTO SERVES VALUES(29, 524, 'Service 3', 42);
INSERT INTO SERVES VALUES(31, 524, 'Service 4', 24);
```

```
INSERT INTO SERVES VALUES(32, 524, 'Service 4', 25);
INSERT INTO SERVES VALUES(23, 356, 'Service 2', 23);
INSERT INTO SERVES VALUES(34, 179, 'Service 1', 13);
INSERT INTO SERVES VALUES(41, 638, 'Service 3', 11);
SELECT * FROM SERVES;
```

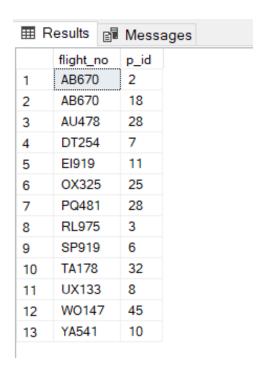
	e_id	a_id	type	p_id
1	1	306	Service 1	1
2	2	306	Service 2	3
3	6	179	Service 4	9
4	8	179	Service 2	12
5	9	524	Service 4	4
6	12	715	Service 1	33
7	14	578	Service 3	10
8	14	578	Service 4	49
9	20	613	Service 2	38
10	23	356	Service 2	23
11	25	356	Service 1	14
12	29	524	Service 3	42
13	31	524	Service 4	24
14	32	524	Service 4	25
15	34	179	Service 1	13
16	41	638	Service 3	11

```
CREATE TABLE PROVIDES
(
flight_no VARCHAR(5) NOT NULL REFERENCES FLIGHTS(flight_no),
ac_id NUMERIC(2) NOT NULL REFERENCES AIRLINES_COMPANY(ac_id)
CONSTRAINT provides_id_pk PRIMARY KEY(flight_no, ac_id));
```

```
INSERT INTO PROVIDES VALUES('RL975', 1);
INSERT INTO PROVIDES VALUES('DT254', 2);
INSERT INTO PROVIDES VALUES('UX133', 3);
INSERT INTO PROVIDES VALUES('EI919', 3);
INSERT INTO PROVIDES VALUES('TA178', 1);
INSERT INTO PROVIDES VALUES('SP919', 1);
INSERT INTO PROVIDES VALUES('OA582', 1);
INSERT INTO PROVIDES VALUES('YA894', 1);
INSERT INTO PROVIDES VALUES('0X325', 2);
INSERT INTO PROVIDES VALUES('PF984', 2);
INSERT INTO PROVIDES VALUES('AU478', 3);
INSERT INTO PROVIDES VALUES('W0147', 3);
INSERT INTO PROVIDES VALUES('PQ481', 4);
INSERT INTO PROVIDES VALUES('MW654', 4);
INSERT INTO PROVIDES VALUES('AB670', 5);
INSERT INTO PROVIDES VALUES('YA541', 5);
SELECT * FROM PROVIDES;
```

	flight_no	ac_id
1	AB670	5
2	AU478	3
3	DT254	2
4	El919	3
5	MW654	4
6	OA582	1
7	OX325	2
8	PF984	2
9	PQ481	4
10	RL975	1
11	SP919	1
12	TA178	1
13	UX133	3
14	WO147	3
15	YA541	5
16	YA894	1

```
CREATE TABLE CARRIES
flight no VARCHAR(5) NOT NULL REFERENCES FLIGHTS(flight no),
p id NUMERIC(5) NOT NULL REFERENCES PASSENGER(p id)
CONSTRAINT carries_id PRIMARY KEY(flight_no, p_id)
);
INSERT INTO CARRIES VALUES('RL975', 3);
INSERT INTO CARRIES VALUES('AB670', 2);
INSERT INTO CARRIES VALUES('YA541', 10);
INSERT INTO CARRIES VALUES('EI919', 11);
INSERT INTO CARRIES VALUES('DT254', 7);
INSERT INTO CARRIES VALUES('UX133', 8);
INSERT INTO CARRIES VALUES('SP919', 6);
INSERT INTO CARRIES VALUES('AB670', 18);
INSERT INTO CARRIES VALUES('OX325', 25);
INSERT INTO CARRIES VALUES('TA178', 32);
INSERT INTO CARRIES VALUES('W0147', 45);
INSERT INTO CARRIES VALUES('AU478', 28);
INSERT INTO CARRIES VALUES('PQ481', 28);
SELECT * FROM CARRIES;
```



QUERIES:

1. Update the information p_id to 3 for flight with number AB670 and p_id =2;

```
UPDATE CARRIES SET p_id =3 WHERE flight_no= 'AB670' and
p_id = 2;
```

	flight_no	p_id
1	AB670	3
2	AB670	18
3	AU478	28
4	DT254	7
5	El919	11
6	OX325	25
7	PQ481	28
8	SP919	6
9	TA178	32
10	UX133	8
11	WO147	45
12	YA541	10

2. Remove the row for flight RL975 and $p_id = 3$;

```
DELETE FROM CARRIES WHERE flight_no = 'RL975' AND
p_id = 3;
```

	flight_no	p_id
1	AB670	3
2	AB670	18
3	AU478	28
4	DT254	7
5	El919	11
6	OX325	25
7	PQ481	28
8	SP919	6
9	TA178	32
10	UX133	8
11	WO147	45
12	YA541	10

3.Find id's of passengers and their names that still haven't booked a ticket and order them by descending order of name.

```
SELECT p_id, p.p_name
FROM PASSENGER p
  EXCEPT
SELECT t.p_id, p.p_name
FROM TICKETS t, PASSENGER p
WHERE t.p_id = p.p_id
ORDER BY p.p_name DESC;
```

	p_id	p_name
1	39	Sassie Romerts
2	31	Sao Jeng
3	37	Ramis Tekin
4	17	Pia Linoda
5	29	Nicolas Smith
6	21	Mohamed Hadid
7	36	Miranda Kerr
8	4	Michael Gray
9	35	Mert Gjunesh
10	5	Mahmud Orhan
11	48	Leona Todoroska
12	30	Laura Henson
13	12	Kristina Popovic
14	46	Kia Kockar
15	16	Kate Laurenson
16	34	Jason Kolea
17	20	Hamid Abduli
18	27	Eva Mendes
19	2	Elena Trajkoska
20	47	David Bendisch
21	26	Brent Riviera
22	9	Bree Van de Ka
23	22	Bella Hadid
24	44	Antonia Gigovska
25	41	Anja Trzan
26	40	Aliriza Tekin

4.List the names of all passengers that have a same ticket number with some other passenger.

```
SELECT distinct t1.p_name
FROM TICKETS t1, TICKETS t2
WHERE t1.ticket_no = t2.ticket_no AND t1.p_name <> t2.p_name;
```

	p_name
1	Carlos Solis
2	Dimitar Mitrevski
3	Emanuel Macron
4	Mike Delfino
5	Rebeka Jankos
6	Sarah Pitt
7	Sofia Richie

5. Find the emails of all passengers that have booked a flight after 1st of March from the airports in Ohrid (St. Paul the Apostle) and Istanbul Airport.

```
SELECT distinct p.p_email
FROM PASSENGER p, FLIGHTS f, TICKETS t
WHERE t.departure_date > '03-01-2021' AND t.p_id =p.p_id AND
f.flight_no = t.flight_no AND f.airport_name IN('St. Paul the
Apostle','Istanbul Airport');
```

	p_email
1	dimitarmitrevski@yahoo.com
2	emanuel_macron@yahoo.com
3	isabella.klein@gmail.com
4	jelena_tomasevic@yahoo.com
5	mikedelfino@yahoo.com
6	norma.john@gmail.com
7	pijong_kjang@gmail.com

6. Count the total flights by airport that have 'p' in their name and order them by the amount of total flights.

```
SELECT COUNT(flight_no) AS Total_Flights, airport_name
FROM FLIGHTS
GROUP BY airport_name
HAVING airport_name LIKE ('%p%')
ORDER BY Total_Flights;
```

Total_Flights	airport_name
1	Miami International Airport
2	Istanbul Airport
2	Melbourne Airport
2	Skopje International Airport
2	St. Paul the Apostle
3	Dubai International Airport
4	Paris Cahrles de Gaulle Airport
	1 2 2 2 2 2 2 3

7. List passenger names that fly with Turkish Airlines and are offered either service 2 or service 4.

```
SELECT s.type, t.f_company, p.p_name
FROM TICKETS t, SERVES S, PASSENGER p
WHERE s.type NOT IN('Service 2 ','Service 4') AND t.f_company =
'Turkish Airlines' AND s.p_id = p.p_id AND p.p_id = t.p_id;
```

	type	f_company	p_name
1	Service 1	Turkish Airlines	Dimitar Mitrevski
2	Service 1	Turkish Airlines	Songjul Kadis
3	Service 3	Turkish Airlines	Norma John

8. Get the sum of all salaries which name of employers start with M

```
SELECT SUM(salary) as Total_Salary
FROM EMPLOYEE
WHERE e_name LIKE 'M%';

Total_Salary
1 8860.00
```

9. Create a view to find how many passengers have bought a ticket for Milano.

```
CREATE VIEW PASSENGERS_TICKETS
AS
SELECT p.p_id
FROM PASSENGER p, TICKETS t
WHERE p.p_id=t.p_id and t.destination='Milano';
SELECT COUNT(*) AS TOTAL_PASSENGER
FROM PASSENGERS_TICKETS;
```

	TOTAL_PASSENGER
1	2

10. Find all flight destinations and all passengers' names that have bought a ticket for 01.30.2021.

```
SELECT destination, p_name
FROM TICKETS
WHERE departure_date='01-30-2021';
```

	destination	p_name
1	Dublin	Borko Ristovski
2	Dublin	Angelina Davis

11. Get all combinations passenger(p_name) and airlines company for all passengers that are from USA or Australia and for all companies located in Germany or Hungary.

```
SELECT p.p_name, ac.ac_name
FROM PASSENGER p, CARRIES c, FLIGHTS f, PROVIDES pr, AIRLINES_COMPANY
ac
WHERE p.p_id =c.p_id AND c.flight_no = f.flight_no AND f.flight_no =
pr.flight_no AND pr.ac_id =ac.ac_id AND ac.ac_country IN
('Germany','Hungary') and p.p_country IN ('USA','Australia');
```

	p_name	ac_name
1	Mia Johns	Wizz Air
2	Anne Heathaway	Lufthansa

12. Create a view to find the salary of all employee names that serve to passengers who fly to Istanbul.

```
CREATE VIEW SALARY_EMP1 AS
SELECT e.salary, e.e_name
FROM employee e, passenger p, serves s, tickets t
WHERE e.e_id=s.e_id and s.p_id=p.p_id and t.p_id=p.p_id and
t.destination='Istanbul';
SELECT *
FROM SALARY EMP1;
```

	salary	e_name
1	700.00	Nikola Siljanoski
2	2560.00	Nick Zapta
3	1400.00	Susan Michel
4	1600.00	Feride Tekin

13.Get all passengers who travel to Istanbul

```
SELECT *
FROM TICKETS t, PASSENGER p WHERE t.p_id = p.p_id AND t.destination =
'Istanbul';
```

	ticket_no	flight_no	p_id	departure_date	seat_no	f_company	p_name	destination	p_id	p_name	p_email	p_country
1	3201	WO147	33	2021-03-07	13B	Turkish Airlines	Songjul Kadis	Istanbul	33	Songjul Kadis	songlul_kadis@gmail.com	Turkey
2	56427	El919	1	2021-03-07	13A	Turkish Airlines	Dimitar Mitrevski	Istanbul	1	Dimitar Mitrevski	dimitarmitrevski@yahoo.com	Macedonia
3	79165	El919	11	2021-03-07	14D	Turkish Airlines	Norma John	Istanbul	11	Norma John	norma.john@gmail.com	Finland
4	84164	WO147	23	2021-03-07	25B	Turkish Airlines	Gigi Hadid	Istanbul	23	Gigi Hadid	gigi.hadid@yahoo.com	USA
5	99881	WO147	45	2021-03-07	20D	Turkish Airlines	Kia Kockar	Istanbul	45	Kia Kockar	kia_kockar@gmail.com	Serbia

14. Find passengers that their id is not between 15 and 20 and are flying from 'Skopje International Airport', 'St. Paul the Apostle' or 'Melbourne Airport'.

```
SELECT p.*
FROM PASSENGER p, CARRIES c, FLIGHTS f
WHERE p.p_id = c.p_id
AND c.flight_no = f.flight_no
AND p.p_id NOT BETWEEN 15 AND 20
AND f.airport_name IN('Skopje International Airport', 'St. Paul the Apostle', 'Melbourne Airport');
```

	p_id	p_name	p_email	p_country
1	7	Susan Mayer	susie.mayer@gmail.com	Germany
2	11	Norma John	norma.john@gmail.com	Finland
3	6	Mike Delfino	mikedelfino@yahoo.com	Mexico
4	8	Carlos Solis	soliscarlos@gmail.com	Spain
5	10	Vanessa Williams	vanessawithv@yahoo.com	United Kingdom

15. Find all passenger ids, their names and their travel destination for all passengers who have a flying ticket from the airlines company Emirates.

```
SELECT p.p_id, p.p_name, t.destination, ac.ac_name
FROM PASSENGER p, TICKETS t, PROVIDES pr, AIRLINES_COMPANY ac
WHERE p.p_id=t.p_id and t.flight_no=pr.flight_no and pr.ac_id=ac.ac_id
and ac.ac_name='Emirates';
```

	p_id	p_name	destination	ac_name
1	43	Jelena Tomasevic	Mumbai	Emirates
2	6	Mike Delfino	Wisconsin	Emirates
3	15	Sarah Pitt	Berlin	Emirates
4	32	Pijong Kjang	Mumbai	Emirates
5	24	Selena Gomez	Torronto	Emirates

CONCLUSION:

Databases are widely used in everyday life. Whether it is a manufacturing company, a banking system or a simple accounting program, databases are of great application and high importance. The use of databases in different sectors facilitates the long-term data retrieval process that would otherwise take days. Using databases allows us easy and fast access to the most hidden data in any sector. Databases are easy and useful, reducing the process and duration of searching a variety of data.