DATABASE MANAGEMENT SYSTEM (CSB 202)

PROJECT REPORT

Online Airport Management System

Narela Airport

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PROJECT DESCRIPTION

Domain: Airport Management System

REQUIREMENTS:

- The system is based on the management of an airport. Airport management systems primarily deals as the name suggests, with the management of airport, airlines, passengers and employees. The system provides broad overview of underlying operational factors that influence its day to day management.
- The database system has the data of all domestic and commercial service airports.
- An airport is located in a city.
- Every airline is identified uniquely by an airline code. Airline code is a two-letter airline designator. Airline also has three-digit code which is printed on an air ticket.

Airline Code:

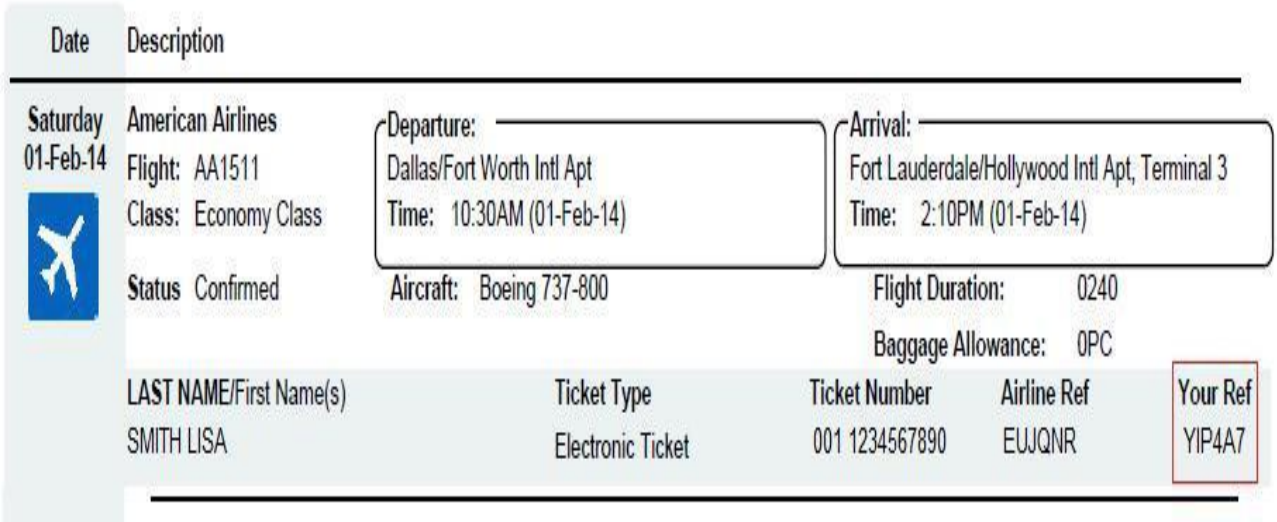
Airline Name	Callsign
American Airlines	AA
Air India Limited	AI
Deutsche Lufthansa AG	LH
British Airways	BA
Qatar Airways Company	QR
Emirates	EK
Etihad Airways	EY

- Airline companies serve flights.
- Every flight is uniquely identified by a flight number. Flight number is a combination of the callsign and the flight number.
    - Flight takes off from one airport and lands on another airport. Therefore, the most important aspect of a flight is, its source and destination. Source and destination airports are identified using an airport's ICAO code.
- International Civil Aviation Organization (ICAO) primary role is to provide a set of standards which will help regulate aviation across the world. It classifies the principles and techniques of international air navigation, as well as the planning and development of international air transport to ensure the safety and security

Airport ID :

Airport Name	ICAO Code
Narela Airport	VNIA
Along Airport	VEAN
Rupsi Airport	VERU
Gaya Airport	VEGY
Chandigarh Airport	VICG
Diu Airport	VA1P

- Flight has an arrival time, departure time, gate number and flight number. Flight has two types of classes, business and economy
- An airport contains many employees.
- One employee may only works for a single airline.
- One airline has many flights.
    - A flight is uniquely identified by a flight number.
- A passenger is uniquely identified by a passenger ID.
    - Every passenger has details such as name, address, passenger id, nationality and contact.
- For a passenger to travel by flight, he needs a ticket. A ticket or air ticket is used to confirm that an individual has reserved a seat on a flight. With the ticket, a passenger is allowed to board the flight.
    - An air ticket has information such as the Passenger's Name, Issuing Airline, PNR, Seat Number, Class, Price and Flight Number.



- Hence, depending on the airline, source, destination, journey date and most importantly class, which a passenger chooses fare or price of an air ticket is determined.
- Every airport has employees working for it.
    - Every employee is identified by employee ID. Every employee has an information such as Name, Designation, Age, Salary.
    - Employees in the role of administrative support, airport engineer, air traffic controller, pilot, air hostess, avionics technician, janitor, gate agent and ramp agent.
    - Every airline needs administrative support staff to keep the office running smoothly. The different positions include secretaries, data entry workers, receptionists, communications and PR specialists and human resources department.
    - There are different types of engineers who work specifically with information technologies, electronics, flight structure, environmental regulations, etc.
    - Air Traffic Controller works in different shifts such as day or night.
- Employees working in the role of administrative support may help passengers with various tasks such as booking a flight ticket, solving passenger's questions, etc.

CASE STUDY

The purpose of this project is to provide complete information about the daily functioning of a domestic airport.
There are multiple systems that need to be managed real-time on such a time and money critical system. The project demonstrates the use of the database in both client-side (Airport Employees) and its use by a third party (Passengers and Information Screens). Different employees would have different permissions to access and handle the content; such as a check-in agent being able to just tag check people in and tag baggage, on the other hand, the airport manager would have server-wide permission to assign/change/remove duties and roles.

The modules that are to be incorporated are:

- Airport Employees
- Information regarding the Airlines
- Ticketing System
- Flight Slot Database
- Passenger Manifest
- Luggage Management Database
- Freight Management Database

Objective of the Project

- Faster processing time and more accurate data
- Implementation of a ticketing system
- Provide the ability to have a front-end information display system

HARDWARE REQUIREMENTS

Assuming that this system is deployed in an actual airport environment, the data set that has to be incorporated in this is of the order of thousands; most of which are to be updated on a second to second basis. The volume of the information that is modified and updated every second is huge, hence the system would require immense processing power.

RECOMMENDED HARDWARE REQUIREMENTS:

- Processor: Intel Xeon W-2245 or higher
- Memory (RAM): 32 GB(ECC) or higher
- Storage: 4TB or higher (RAID 5)
- Graphic Drivers: Intel UHD Graphics 620 or later

SOFTWARE REQUIREMENTS

The software acts as the interface between the server-grade hardware and the enormous amounts of data, hence reliable sets of applications must be used to ensure that the time critical data remains online and secure.

RECOMMENDED SOFTWARE REQUIREMENTS:

- Operating System: Windows Server 2008 R2 or later
- Database Management: MS SQL Server 2008 or later
- Web Server: Apache 2.2 or later
- Web Browser (Google Chrome 40 or later; Microsoft Internet Explorer 11 or later; Mozilla Firefox ESR 31 or later)

ENTITIES

AIRPORT

ID	Airport_Name	City

EMPLOYEES

Emp_ID	Emp_name	Age	Designation	salary

AIRLINES

Callsign	Name	Web_chekin	No_of_Aircrafts	Food_Availability

FLIGHT

Flight_No	Arrival_Airport	Departure_Airport	Departing_Time	Arrival_Time	Gate_No

TICKETS

PNR	Airline	Class	Flight_No	Seat_no	Price	P_Name	Travel_date

FREIGHT

Cargo_ID	Flight_No	Departing	Arrival	Category

PASSENGER

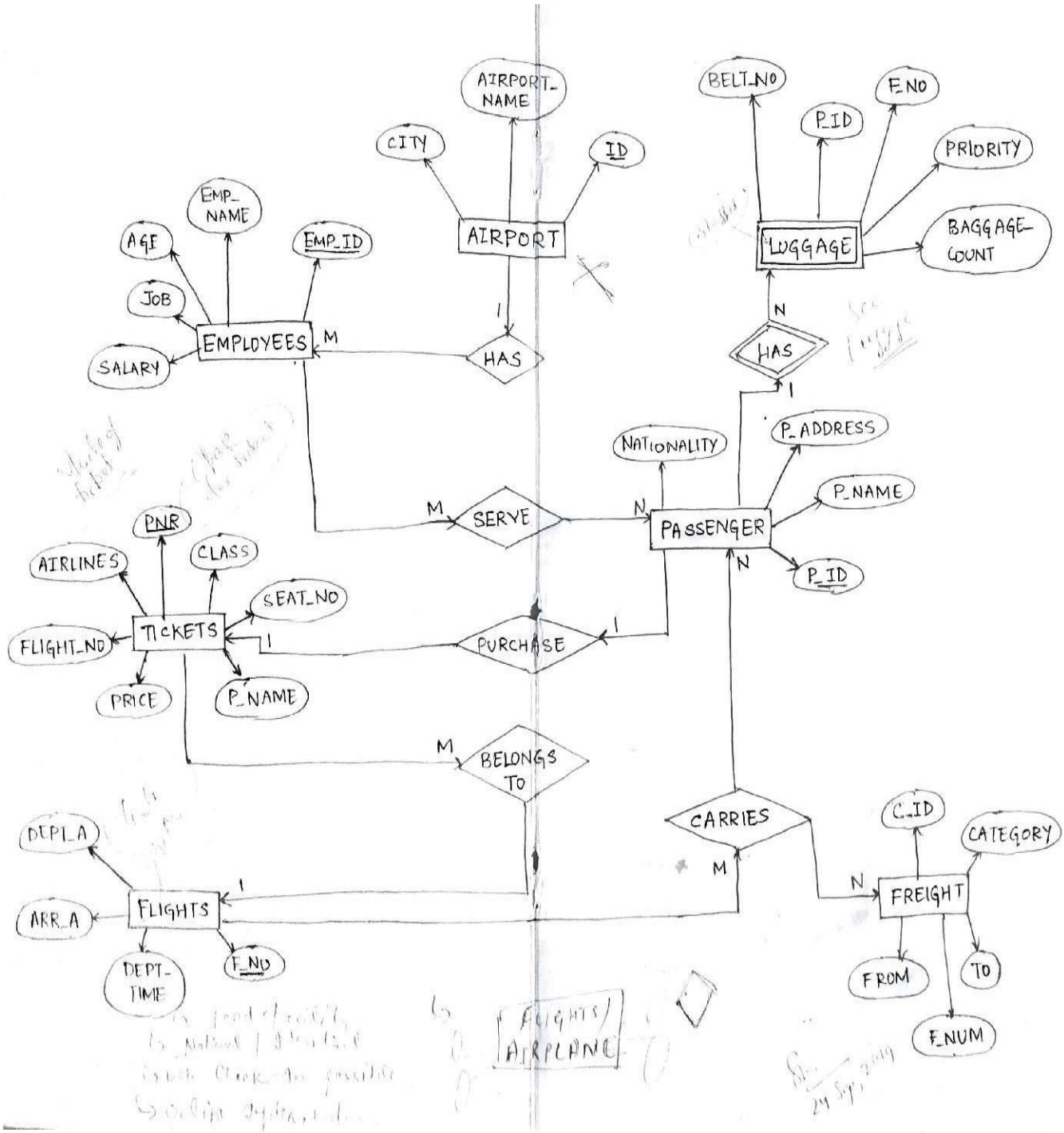
P_ID	P_name	P_Address	P_Contact	P_Nationality	PNR

LUGGAGE

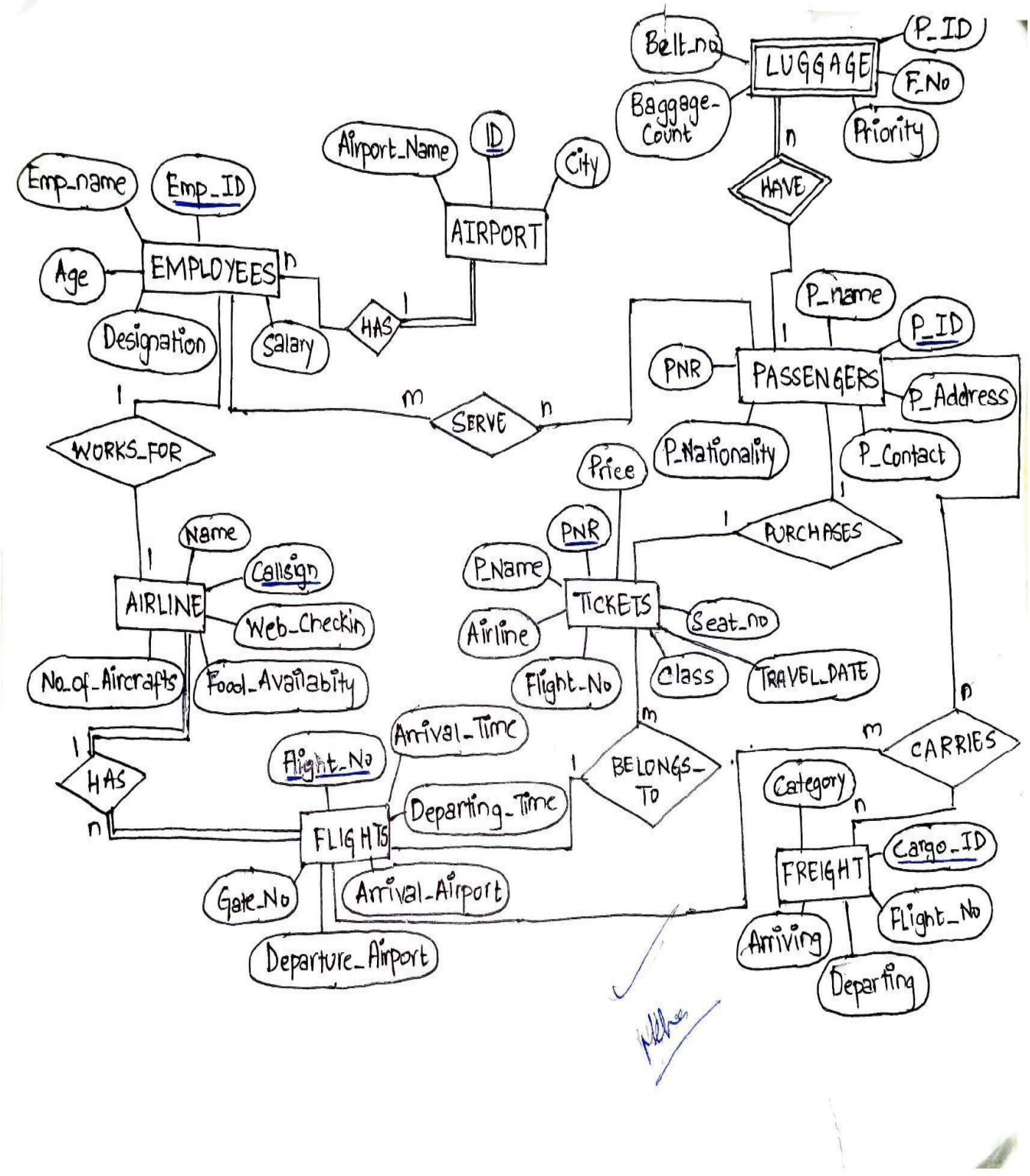
P_ID	F_No	Belt_no	Baggage_Count	Priority

ER DIAGRAM

PREVIOUS ER



UPDATED ER


Belt_no
LUGGAGE
P_ID
F_No
Priority
Baggage-Count
n
HAVE
Airport_Name
ID
City
AIRPORT
Emp_name
Emp_ID
Age
EMPLOYEES
n
HAS
1
Designation
Salary
P_name
P_ID
PNR
PASSENGERS
P_Address
P_Nationality
P_Contact
m
SERVE
n
WORKS_FOR
Price
PNR
P_Name
Airline
TICKETS
Seat_no
Class
TRAVEL_DATE
PURCHASES
Name
Callsign
AIRLINE
Web_Checkin
No_of_Aircrafts
Food_Availability
HAS
Flight_No
Arrival_Time
Departing_Time
FLIGHTS
Gate_No
Arrival_Airport
Departure_Airport
BELONGS_TO
CARRIES
Category
FREIGHT
Cargo_ID
Flight_No
Arriving
Departing

ENTITY RELATIONSHIPS

ER diagram contains following relationships

Entity 1	Name of Relationships	Entity 2	Cardinality
Airport	has	Employees	1 : n
Employees	works for	Airlines	1 : 1
Airlines	has	Flights	1 : n
Flight	carries	Freight	m : n
Flight	carries	Passengers	m : n
Employees	serves	Passengers	m : n
Passengers	purchases	Tickets	1 : m
Tickets	belongs to	Flights	m : 1

Types of the Binary	Relationships in the System
Relation one to one	(1)An employee works for an airline. (2) A passenger purchases a ticket.
Relation one to many	(1)One airport has many many employees. (2)One passenger has a lot of luggage.
Relation many to one	(1)Many tickets belong to one flight.
Relation many to many	(1)Many employees serve many passengers. (2)Many flights carry many passengers. (3)Many flights carry many freights.

MAPPING FROM ER MODEL TO RELATIONAL MODEL

AIRPORT

ID	Airport_Name	City

EMPLOYEES

Emp_ID	Emp_name	Age	Designation	salary

AIRLINES

Callsign	Name	Web_chekin	No_of_Aircrafts	Food_Availability

FLIGHT

Flight_No	Arrival_Airport	Departure_Airport	Departing_Time	Arrival_Time	Gate_No

TICKETS

PNR	Airline	Class	Flight_No	Seat_no	Price	P_Name	Travel_date

FREIGHT

Cargo_ID	FLight_No	Departing	Arrival	Category

PASSENGER

P_ID	P_name	P_Address	P_Contact	P_Nationality	PNR

LUGGAGE

P_ID	F_No	Belt_no	Baggage_Count	Priority

SQL

DDL QUERIES

- **CREATING TABLE : AIRPORT**

```
Create table AIRPORT
        ( Airport_Name varchar(25),
        City varchar(25),
        ID varchar(10) NOT NULL,
        primary key (id));
```

- **INSERTING VALUES FOR TABLE : AIRPORT**

```
Insert into AIRPORT (Airport_name, City, ID) values ('Along Airport','Along','VEAN');
Insert into AIRPORT (Airport_name, City, ID) values ('Rupsi Airport','Dhubri','VERU');
Insert into AIRPORT (Airport_name, City, ID) values ('Gaya Airport','Gaya','VEGY');
Insert into AIRPORT (Airport_name, City, ID) values ('Chandigarh Airport','Chandigarh','VICG');
Insert into AIRPORT (Airport_name, City, ID) values ('Diu Airport','Diu','VA1P');
```

- **CREATING TABLE : EMPLOYEES**

```
Create table EMPLOYEES
        ( Emp_name varchar(25),
        Emp_ID int NOT NULL,
        Age int,
        Designation varchar(25),
        salary int,
        primary key (Emp_int));
```

- **INSERTING VALUES FOR TABLE : EMPLOYEES**

```
insert into EMPLOYEES values('Yuvraj Prince Champawat',25,28,'ATC',80000);
insert into EMPLOYEES values('Prasun Sharma',32, 27,'ATC',80000);
insert into EMPLOYEES values('Amrit P Janit', 77, 30, 'ATC',80000);
insert into EMPLOYEES values('Ali Baba', 111,35,'Air Host',30000);
insert into EMPLOYEES values('Yash Nashville',132, 69, 'Pilot',100000);
insert into EMPLOYEES values('Chamiya Prasad',150,42,'Pilot',110000);
insert into EMPLOYEES values('Beeta Somad',158,26,'Air Hostess',35000);
insert into EMPLOYEES values('Isa Singh',169,29,'Air Hostess',7000);
insert into EMPLOYEES values('Namrata Sitara',187,28,'Air Hostess', 32000);
insert into EMPLOYEES values('Sumi Bhandosa', 191, 38, 'Pilot', 150000);
insert into EMPLOYEES values('Baarish Rajain',429, 35, 'Airport Engineer',37000);
insert into EMPLOYEES values('Vishal Canon', 499,65,'Airport Engineer',35000);
insert into EMPLOYEES values('Blaine Lively',661,30,'Avionics Technician',12000);
insert into EMPLOYEES values('Monga Pipes',699,33,'Ramp Agent', 25000);
insert into EMPLOYEES values('Drake Pandey',725,53,'Janitor', 7000);
```

- **CREATING TABLE : PASSENGERS**

```
Create table PASSENGERS
        ( P_name varchar(25),
        P_ID int NOT NULL,
        P_Address varchar(25),
        P_Contact int NOT NULL
        P_Nationality varchar(25) NOT NULL,
        primary key (P_ID));
```

- **INSERTING VALUES FOR TABLE : PASSENGERS**

```
Insert into PASSENGERS (P_name, P_ID, P_Address, P_Contact, P_Nationality) values ('ABC', '001',
'30,Block A, Delhi', '9845968194', 'Indian');
Insert into PASSENGERS (P_name, P_ID, P_Address, P_Contact, P_Nationality) values ('DEF', '002',
'65,Block B, Bengaluru', '8296451304', 'Indian');
Insert into PASSENGERS (P_name, P_ID, P_Address, P_Contact, P_Nationality) values ('JKL', '003',
'77,Block C, Virginia', '6361646219', 'American');
Insert into PASSENGERS (P_name, P_ID, P_Address, P_Contact, P_Nationality) values ('MNO', '004',
'50,Block D, Chennai', '9865968100', 'Indian');
Insert into PASSENGERS (P_name, P_ID, P_Address, P_Contact, P_Nationality) values ('PQR', '005',
'37,Block E, Manchester', '8444596819', 'British');
Insert into PASSENGERS (P_name, P_ID, P_Address, P_Contact, P_Nationality) values ('STU', '006',
'54,Block F, Mysore', '9875968194', 'Indian');
Insert into PASSENGERS (P_name, P_ID, P_Address, P_Contact, P_Nationality) values ('GHI', '007',
'22,Block G, Texas', '7778889990', 'American');
Insert into PASSENGERS (P_name, P_ID, P_Address, P_Contact, P_Nationality) values ('WXY', '008',
'33,Block H, Delhi', '9849646667', 'Indian');
Insert into PASSENGERS (P_name, P_ID, P_Address, P_Contact, P_Nationality) values ('ZAB', '009',
'90,Block I, Melbourne', '8765968194', 'Australian');
Insert into PASSENGERS (P_name, P_ID, P_Address, P_Contact, P_Nationality) values ('QWE', '010',
'87,Block J, London', '9876968194', 'British');
Insert into PASSENGERS (P_name, P_ID, P_Address, P_Contact, P_Nationality) values ('RTY', '011',
'54,Block K, Pune', '6559681941', 'Indian');
Insert into PASSENGERS (P_name, P_ID, P_Address, P_Contact, P_Nationality) values ('UIO', '012',
'44,Block L, Delhi', '9845009194', 'Indian');
Insert into PASSENGERS (P_name, P_ID, P_Address, P_Contact, P_Nationality) values ('PAS', '013',
'99,Block M, Portland', '986568194', 'American');
Insert into PASSENGERS (P_name, P_ID, P_Address, P_Contact, P_Nationality) values ('DFG', '014',
'12,Block N, Goa', '7645968194', 'Indian');
Insert into PASSENGERS (P_name, P_ID, P_Address, P_Contact, P_Nationality) values ('HJK', '015',
'76,Block O, Chennai', '9084596819', 'Indian');
Insert into PASSENGERS (P_name, P_ID, P_Address, P_Contact, P_Nationality) values ('LZX', '016',
'98,Block P, Kerala', '9848768194', 'Indian');
Insert into PASSENGERS (P_name, P_ID, P_Address, P_Contact, P_Nationality) values ('CVB', '017',
'87,Block Q, Mumbai', '7845968194', 'Indian');
Insert into PASSENGERS (P_name, P_ID, P_Address, P_Contact, P_Nationality) values ('NMQ', '018',
'53,Block R, Sydney', '8845968194', 'Australia');
Insert into PASSENGERS (P_name, P_ID, P_Address, P_Contact, P_Nationality) values ('RET', '019',
'72,Block S, Delhi', '7845968194', 'Indian');
Insert into PASSENGERS (P_name, P_ID, P_Address, P_Contact, P_Nationality) values ('YSC', '020',
'40,Block T, California', '9853268194', 'American');
```

- **CREATING TABLE : AIRLINES**

```
Create table AIRLINES
        ( Name varchar(25),
        Callsign varchar(25) NOT NULL,
        Web_Checkin char,
        Food_Avaibility varchar(10),
        No_of_Aircrafts varchar(25),
        primary key (Callsign));
```

- **INSERTING VALUES FOR TABLE : AIRLINES**

```
insert into AIRLINES values('American Airlines', 'AA', 'Y', 'Y', '193');
insert into AIRLINES values('Air India Limited', 'AI', 'N', 'N', '259');
insert into AIRLINES values('British Airways', 'BA', 'Y', 'Y', '157');
insert into AIRLINES values('Emirates', 'EK', 'Y', 'Y', '420');
insert into AIRLINES values('Etihad Airways', 'EY', 'N', 'Y', '310');
insert into AIRLINES values('Deutsche Lufthansa AG', 'LH', 'Y', 'N', '109');
insert into AIRLINES values('Qatar Airways Company', 'QR', 'Y', 'Y', '300');
```

- **CREATING TABLE : FLIGHT**

```
Create table FLIGHT
        ( Flight_No varchar(25) NOT NULL,
        Gate_No varchar(5) NOT NULL,
        Departure_Airport varchar(25) NOT NULL,
        Arrival_Airport varchar(25) NOT NULL,
        Departing_Time int,
        Arrival_Time int,
        Primary key (Flight_No));
```

- **INSERTING VALUES FOR TABLE : FLIGHT**

```
insert into FLIGHTS values ('AA 351','9A','VNIA','VA1P',415,NULL);
insert into FLIGHTS values ('AI '914','10A','VNIA','VERU',150,NULL);
insert into FLIGHTS values ('AI 921','15B','VEGY','VNIA',NULL,1040);
insert into FLIGHTS values ('BA 241','12D','VICG','VNIA',NULL,1730);
insert into FLIGHTS values ('EK 091','35A','VNIA','VEAN',1305,NULL);
insert into FLIGHTS values ('EK 094','09B','VNIA','VICG',2320,NULL);
insert into FLIGHTS values ('EY 221','25B','VICG','VNIA',NULL,840);
insert into FLIGHTS values ('LH 241','26A','VNIA','VERU',2130,NULL);
insert into FLIGHTS values ('QR 081','22C','VEAN','VNIA',NULL,1805);
insert into FLIGHTS values ('QR 368','11B','VERU','VNIA',NULL,815);
```

- **CREATING TABLE : LUGGAGE**

```
Create table LUGGAGE
        ( P_ID int NOT NULL,
        F_No varchar(25) NOT NULL,
        Belt_no int NOT NULL,
        Baggage_Count int NOT NULL,
        Priority varchar(25),
        primary key (P_ID));
```

- **INSERTING VALUES FOR TABLE : LUGGAGE**

```
insert into LUGGAGE values (1, 'EK 091', 5, 2, 'Y');
insert into LUGGAGE values (2, 'AA 351', 3, 2, 'Y');
insert into LUGGAGE values (3, 'QR 081', 2, 1, 'N');
insert into LUGGAGE values (4, 'EK 091', 5, 2, 'N');
insert into LUGGAGE values (5, 'BA 241', 1, 1, 'N');
insert into LUGGAGE values (6, 'LH 241', 6, 1, 'N');
insert into LUGGAGE values (7, 'EK 091', 5, 2, 'N');
insert into LUGGAGE values (9, 'EY 221', 8, 2, 'Y');
insert into LUGGAGE values (10, 'EK 091', 5, 1, 'N');
insert into LUGGAGE values (11, 'QR 368',11, 1, 'N');
insert into LUGGAGE values (13, 'EK 091', 5, 2, 'N');
insert into LUGGAGE values (14, 'AA 351', 3, 2, 'Y');
```

- **CREATING TABLE : TICKETS**

```
Create table TICKETS
        ( PNR varchar(25) NOT NULL,
        P_Name varchar(25) NOT NULL,
        Airline varchar(25) NOT NULL,
        Flight_No varchar(25) NOT NULL,
        Class varchar(10),
        Seat_no varchar(5) NOT NULL,
        Price int NOT NULL,
        primary key (PNR));
```

- **INSERTING VALUES FOR TABLE : TICKETS**

```
insert into TICKETS values ('GABZNH','Raman Kumar','Emirates','EK 091','Economy','33A',15423);
insert into TICKETS values ('ABZTNX','Ankur Kumar','American Airlines','AA 351','Economy','36D',11423);
insert into ticket values ('PUTNSG','Shashank Patil','Qatar Airways Company','QR 081','Business','11B',37928);
insert into TICKETS values ('QTVBDG','Sagar Mishra','Emirates','EK 091','Business','3A',54998);
insert into TICKETS values ('ABBGNX','Anil Khori','British Airways','BA 241','Economy','17D',17623);
insert into TICKETS values ('XXXGAT','Gautam Gupta','Deutsche Lufthansa AG','LH 241','Economy','38F',24924);
insert into TICKETS values ('QMSHYI','Shikha Bharadwaj','Emirates','LH 241','Economy','18E',26489);
insert into TICKETS values ('PRYCBX','Akash Kumar','Air India Limited','AI 914','Business','8C',54284);
insert into TICKETS values ('PLDGZV','Talwar Singh','Etihad Airways','EY 221','Business','4C',64218);
insert into TICKETS values ('POUTZV','Neha Tribyani','Emirates','EK 091','Economy','24C',42814);
insert into TICKETS values ('BCTDEM','Ashish Nayan','Qatar Airways Company','QR 368','Economy','31A',34514);
insert into TICKETS values ('MFTSHZ','Viraj Singh','Deutsche Lufthansa AG','LH 241','Economy','33D',35511);
insert into TICKETS values ('OTYVBM','Siddhart Kumar','Emirates','EK 091','Economy','29E',37414);
insert into TICKETS values ('UTHFTX','Rahul Sahu','American Airlines','AA 351','Business','11C',62427);
insert into TICKETS values ('ABBCFZ','Shivam Sharma','Qatar Airways Company','QR 368','Business','10B',54138);
insert into TICKETS values ('UTNHVX','Udyana Gupta','Emirates','EK 094','Economy','30B',27415);
insert into TICKETS values ('ORTXNS','Priya Sharma','American Airlines','AA 351','Economy','28E',28457);
insert into TICKETS values ('ITBSXM','Angel Priya','British Airways','BA 241','Economy','36D',61459);
insert into TICKETS values ('PRTXMS','Komal Shukla','Deutsche Lufthansa AG','LH 241','Economy','29C',44957);
insert into TICKETS values ('AAEZTG','Aditya Dubey','Air India Limited','AI 921','Economy','21C',27954);
```

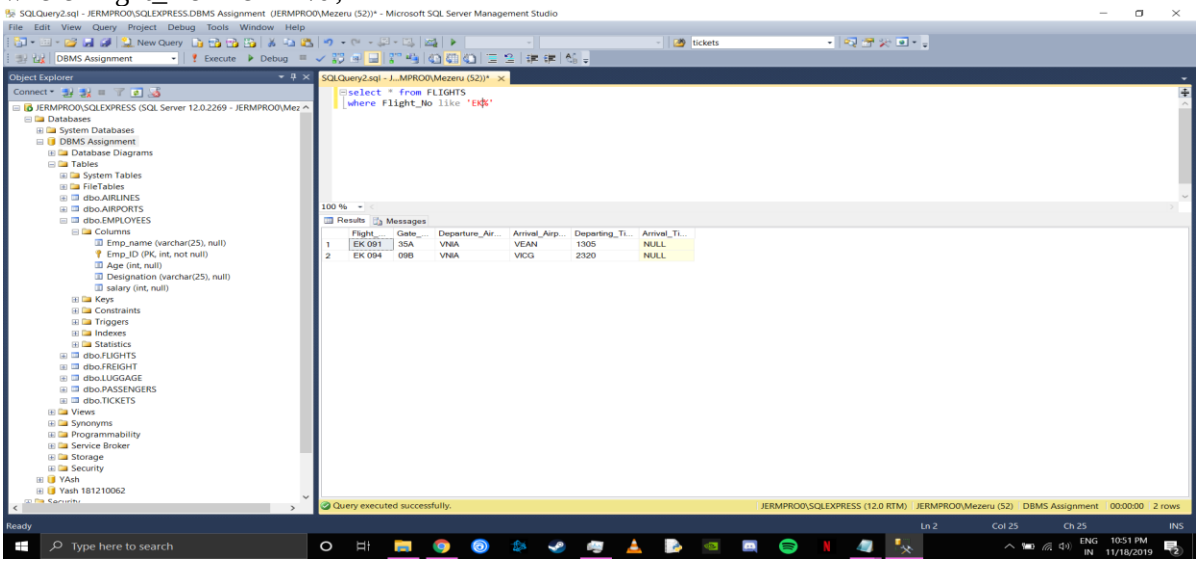
- **INSERTING FOREIGN KEYS**

```
alter table passengers
add foreign key (P_ID) references luggage(P_ID);

alter table luggage
add foreign key (F_No) references flights(Flight_No);

alter table tickets
add foreign key (Flight_No) references flights(Flight_No);

alter table freight
add foreign key (FLight_No) references flights(Flight_No);

alter table passengers
add foreign key (PNR) references tickets(PNR);
```

RELATIONAL ALGEBRA OPERATIONS (BASIC)

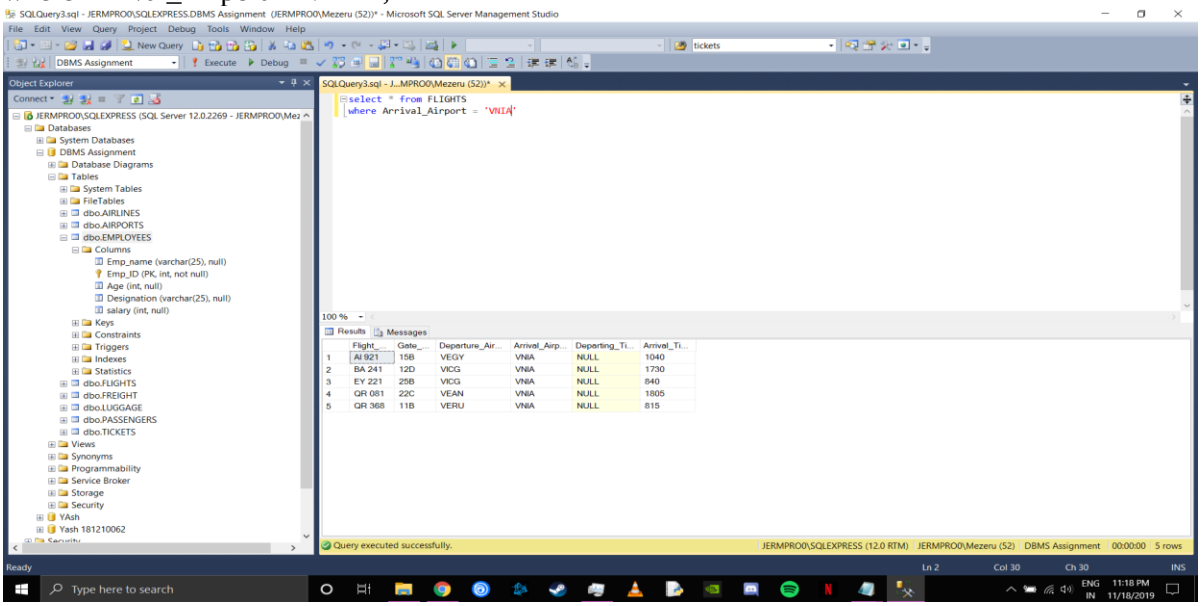
QUERY 1:
Write an SQL Query to print details of flights with FLight_No starting with ‘EK’.

Select * from FLIGHTS
where Flight_No like 'EK%';



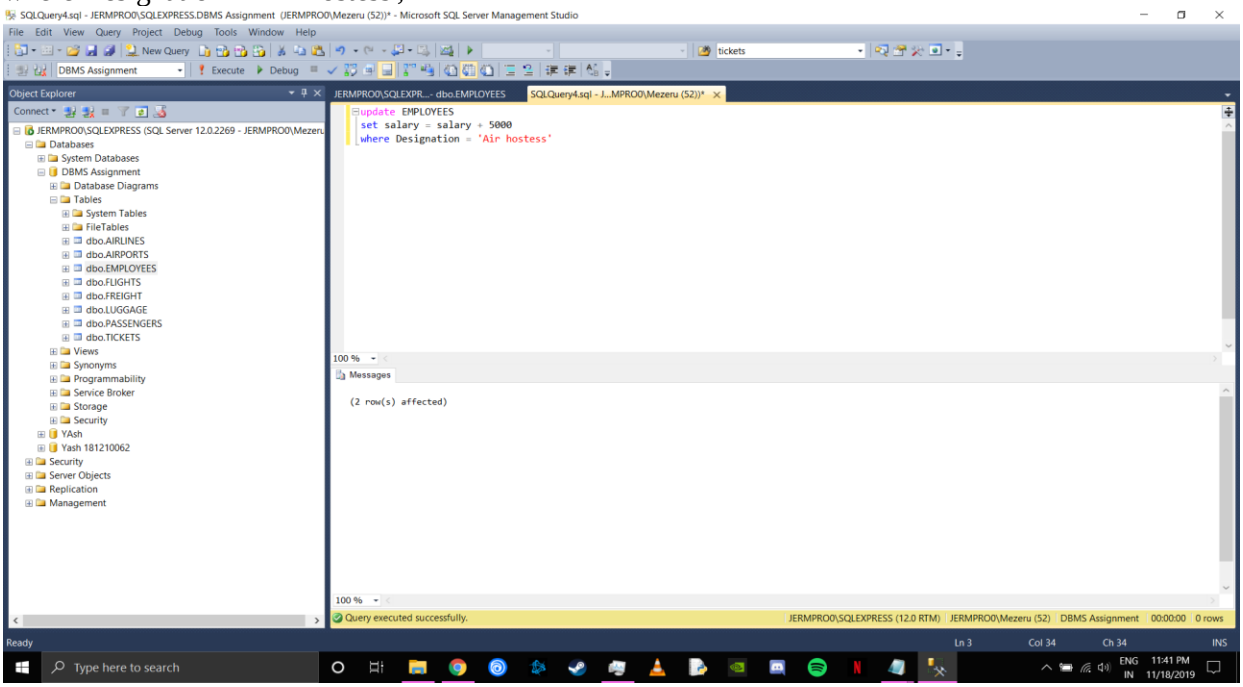
QUERY 2 :
Write a SQL Query to fetch list of flights arriving at the Narela Airport

Select * from FLIGHTS
where Arrival_Airport = 'VNIA';



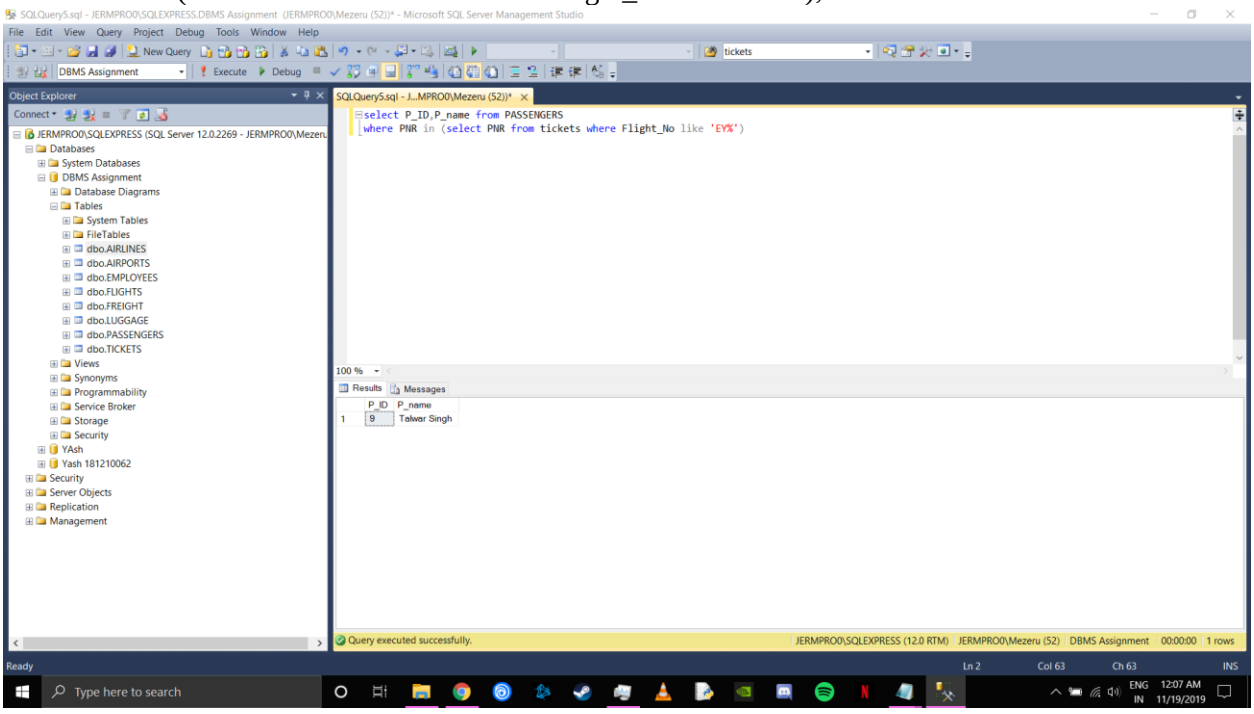
QUERY 3 :
Write a SQL Query to increment the salary of Air hostess by Rs. 5000.

```
update EMPLOYEES
set salary = salary + 5000
where Designation = 'Air hostess';
```



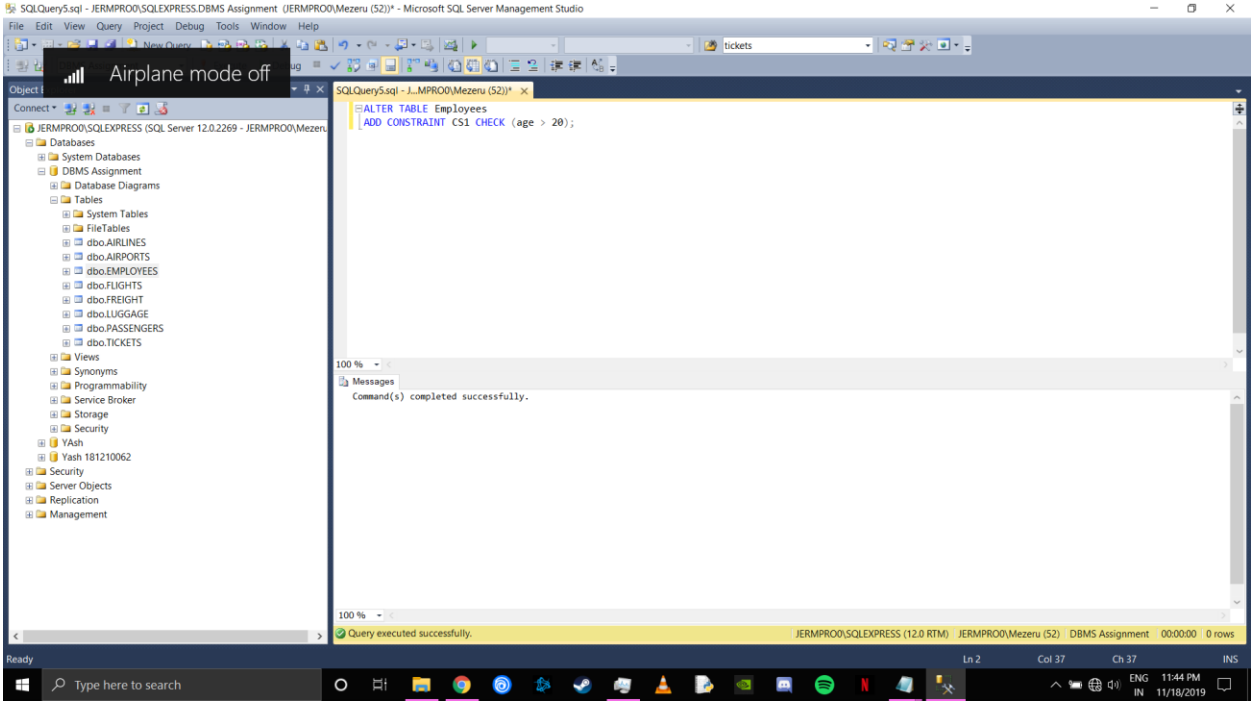
QUERY 4 :
Write a SQL Query to print the passenger name of people travelling by “Etihad Airways”.

```
select P_ID,P_name from PASSENGERS
where PNR in (select PNR from tickets where Flight_No like 'EY%');
```



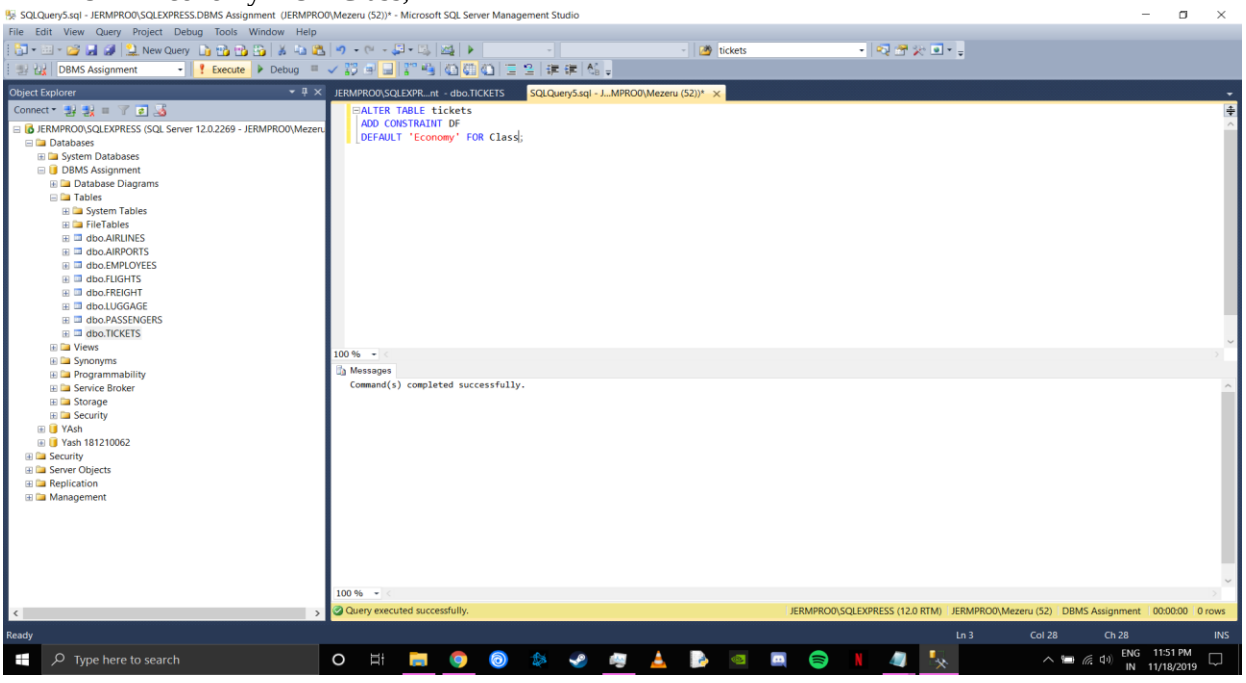
QUERY 5 :
Write a SQL Query to add a constraint to the age of employees, so that age is greater than 20.

```
ALTER TABLE Employees
ADD CONSTRAINT CS1 CHECK (age > 20);
```



QUERY 6 :
Write a SQL Query to set a default class as “economy” while booking a ticket.

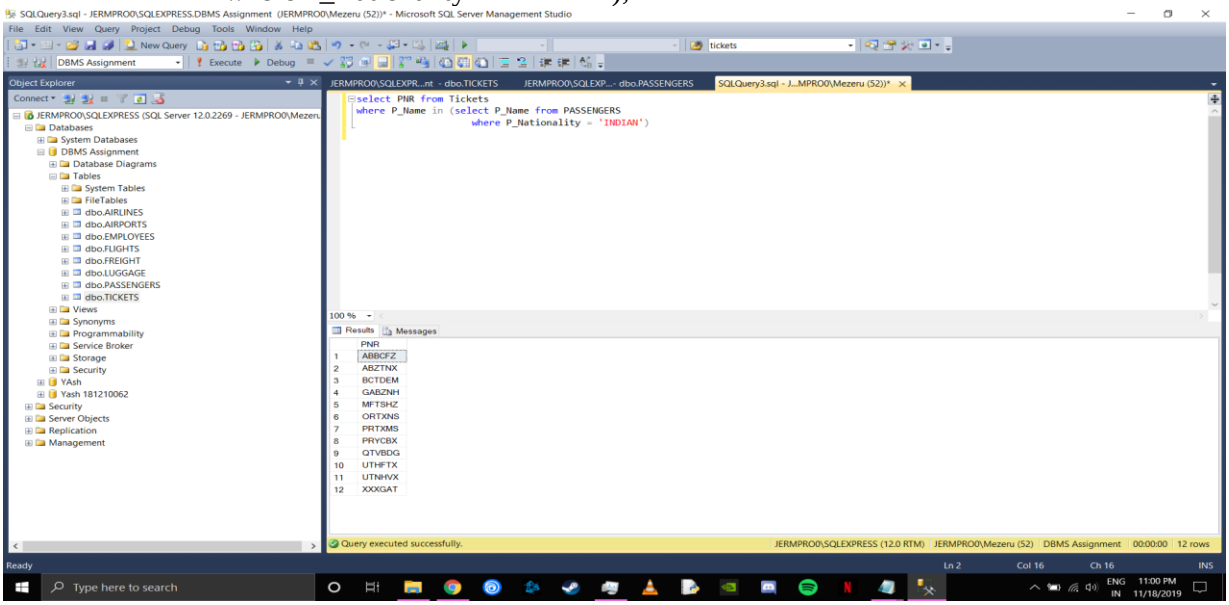
```
ALTER TABLE tickets
ADD CONSTRAINT DF
DEFAULT 'Economy' FOR Class;
```



RELATIONAL ALGEBRA QUERIES (DERIVED)

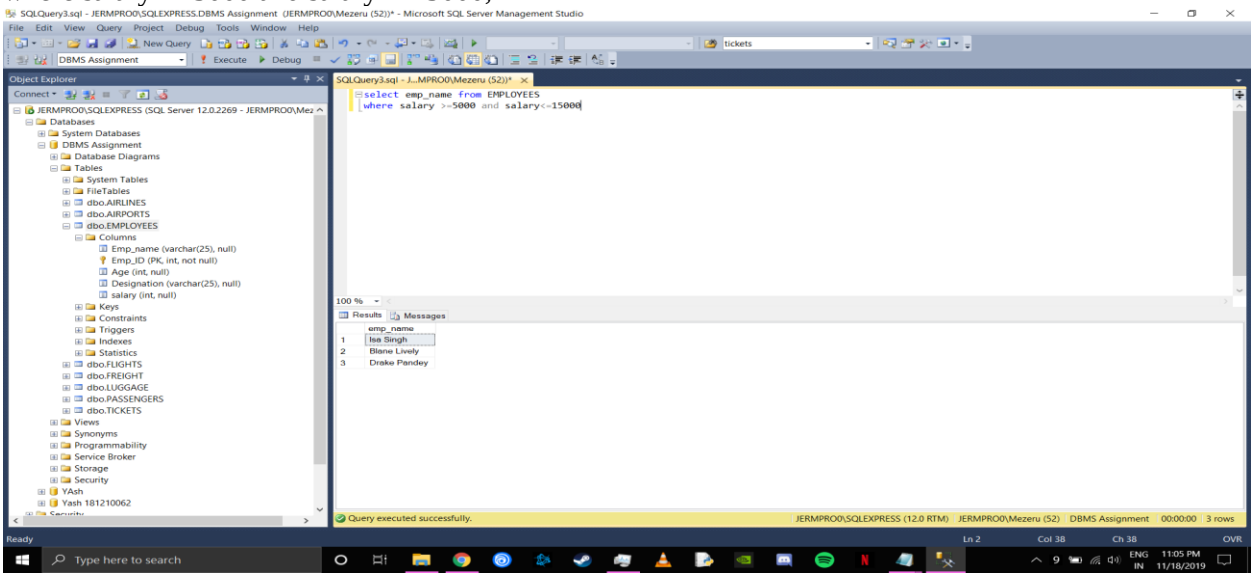
QUERY 1 :
Write an SQL Query to fetch the PNR of the passenger with nationality ‘Indian’.

```
Select PNR from Tickets
where P_Name in (select P_Name from PASSENGERS
                 where P_Nationality = 'INDIAN');
```



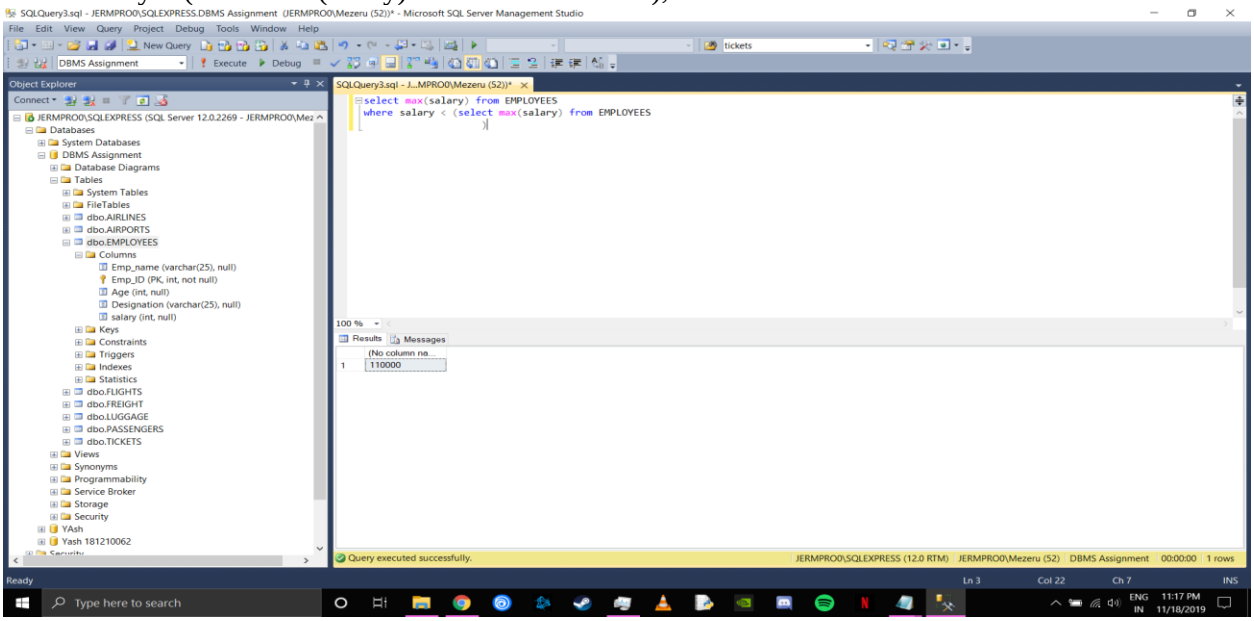
QUERY 2:
Write a SQL Query to fetch employees name with salaries >=50000 and <=150000.

```
Select emp_name from EMPLOYEES
where salary >=5000 and salary<=15000;
```



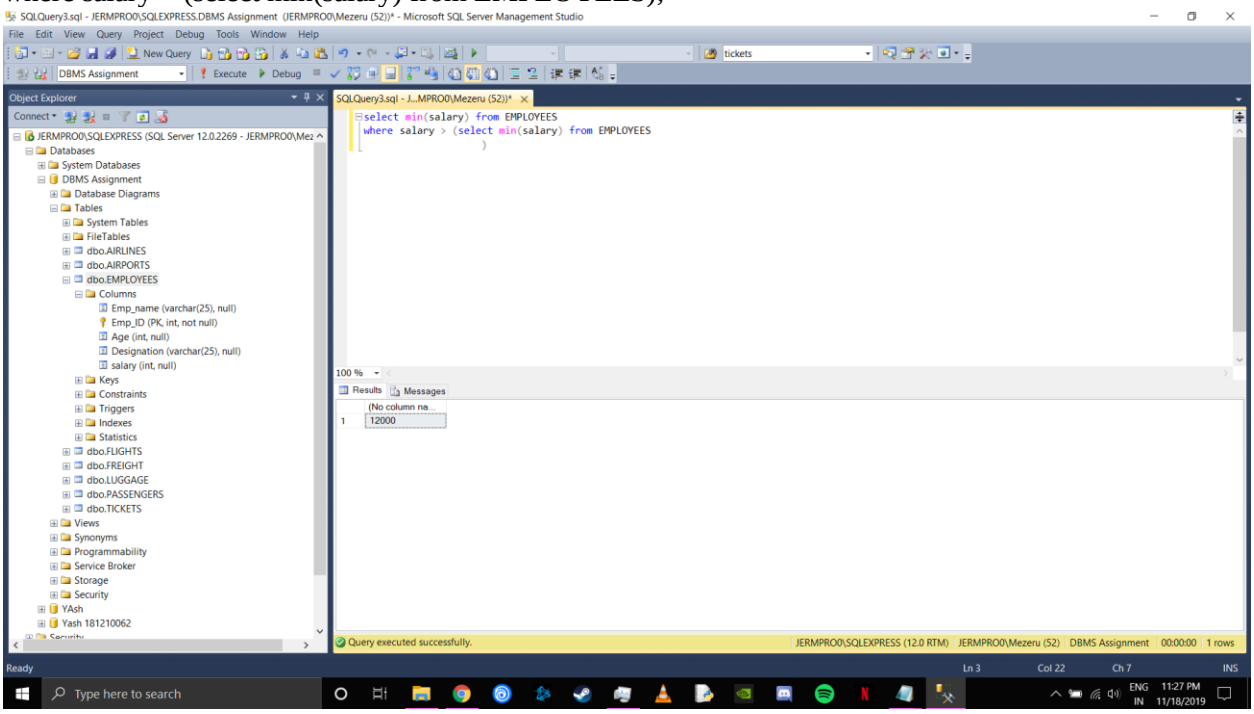
QUERY 3 :
Write a SQL Query to determine the second highest salary of an employee.

```
Select max(salary) from EMPLOYEES
where salary < (select max(salary) from EMPLOYEES);
```



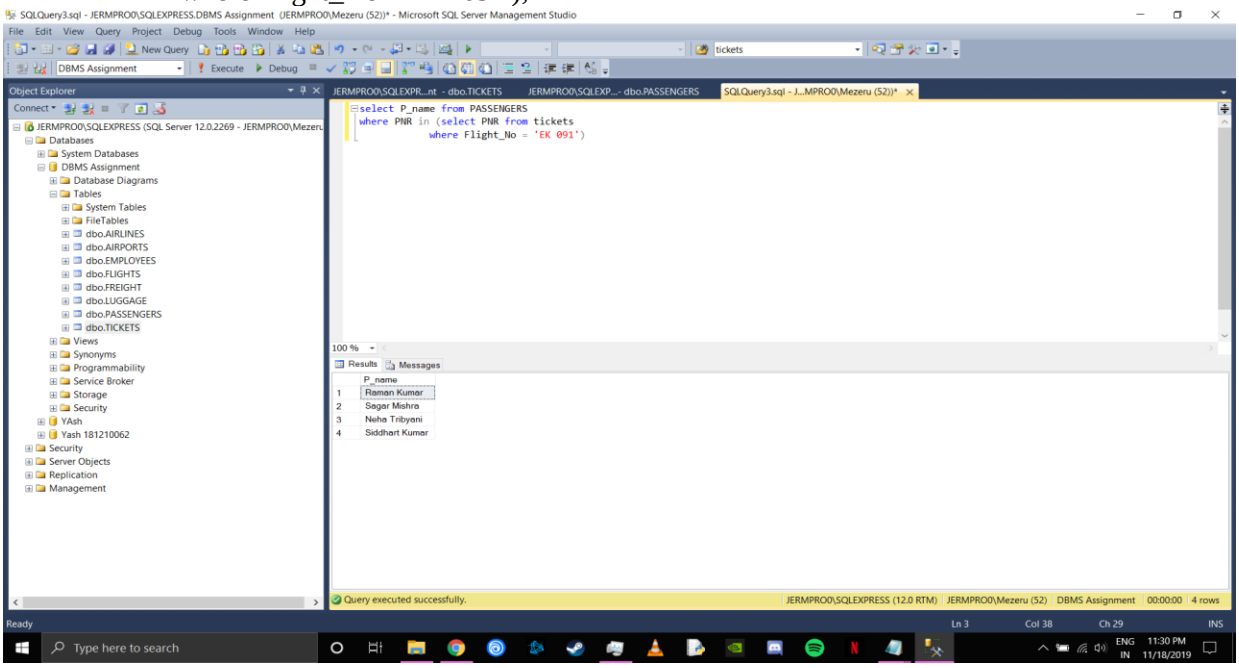
QUERY 4 :
Write a SQL Query to fetch second minimum salary from EMPLOYEES table.

```
Select min(salary) from EMPLOYEES
where salary > (select min(salary) from EMPLOYEES);
```



QUERY 5 :
Write a SQL Query to print the passenger name travelling in flight “EK 091”.

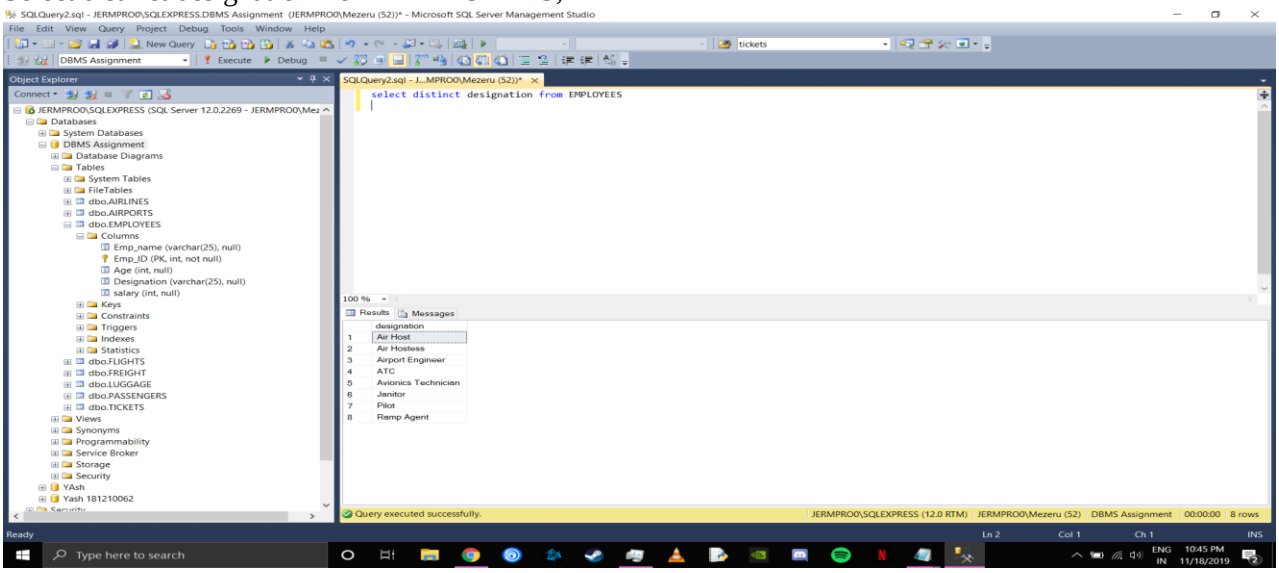
```
select P_name from PASSENGERS
where PNR in (select PNR from tickets
                where Flight_No = 'EK 091');
```



ADVANCED SQL QUERIES

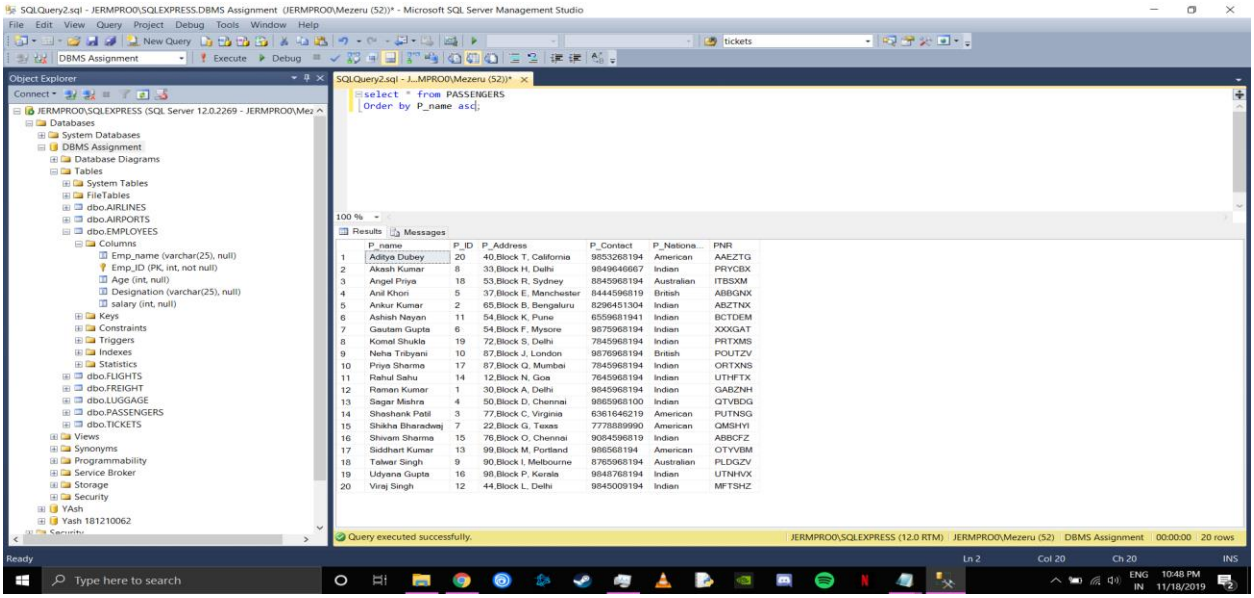
QUERY 1 :
Write a SQL Query to fetch unique values of designation from EMPLOYEES table.

Select distinct designation from EMPLOYEES;



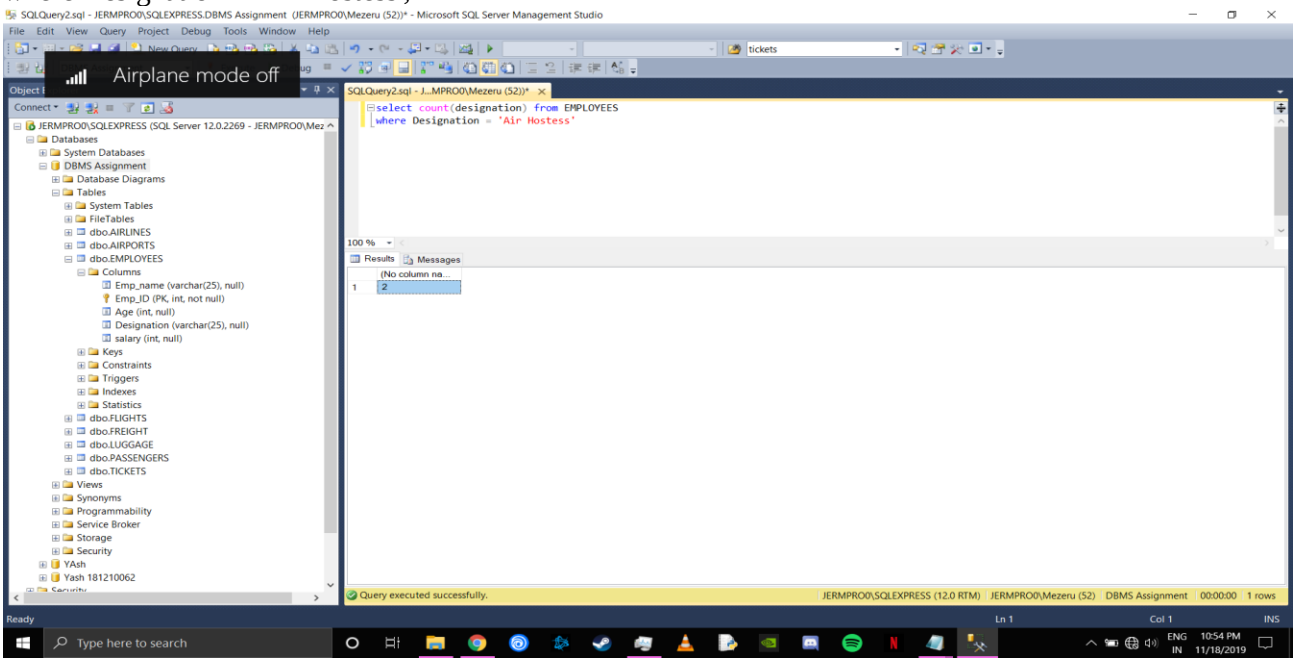
QUERY 2:
Write a SQL Query to print all passenger details from the PASSENGER table, order by P_Name in ascending order.

Select * from PASSENGERS
Order by P_name asc;



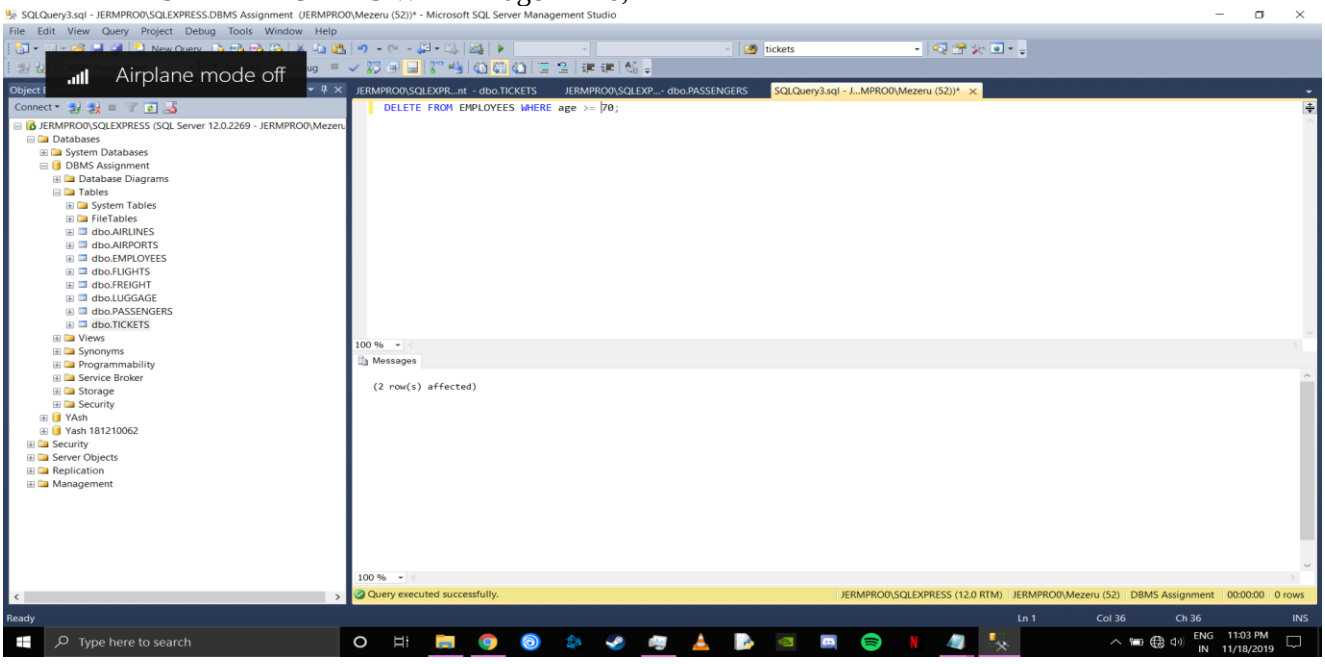
QUERY 3 :
Write an SQL Query to fetch the count of employees having designation as ‘Air Hostess’.

Select count(designation) from EMPLOYEES
where Designation = 'Air Hostess';



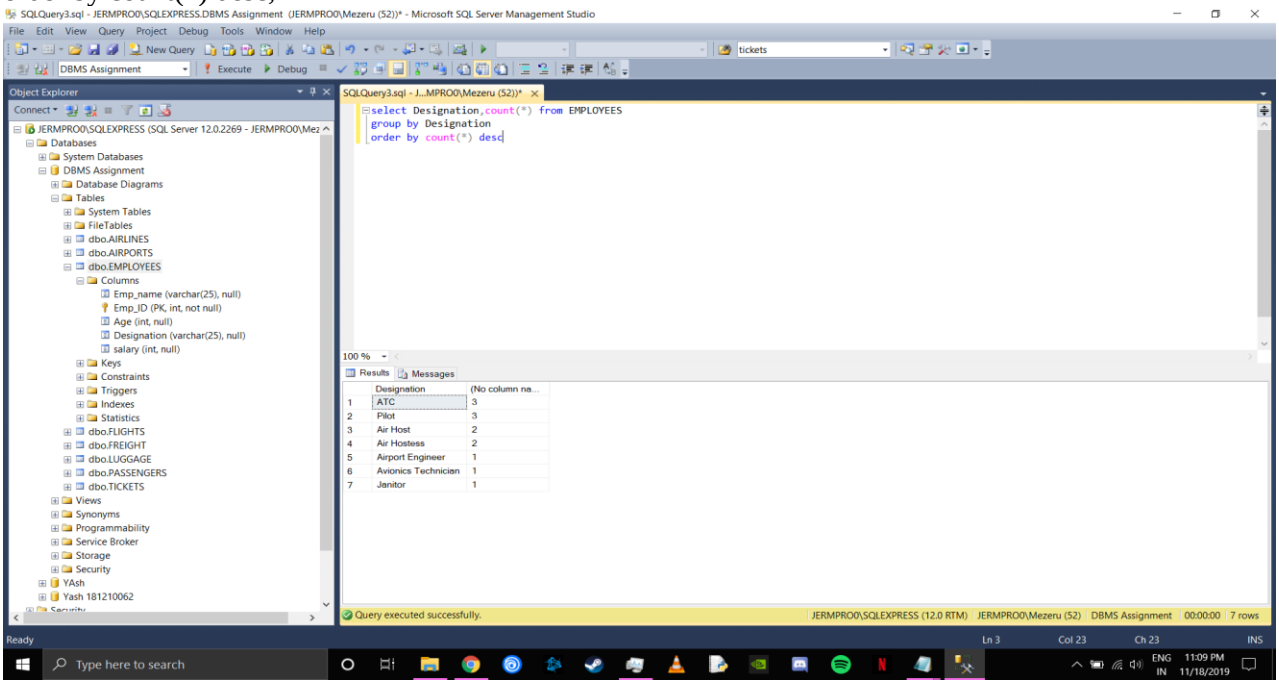
QUERY 4 :
Write an SQL Query to delete the records of an employee whose age is greater than or equal to 70.

DELETE FROM EMPLOYEES WHERE age >= 70;



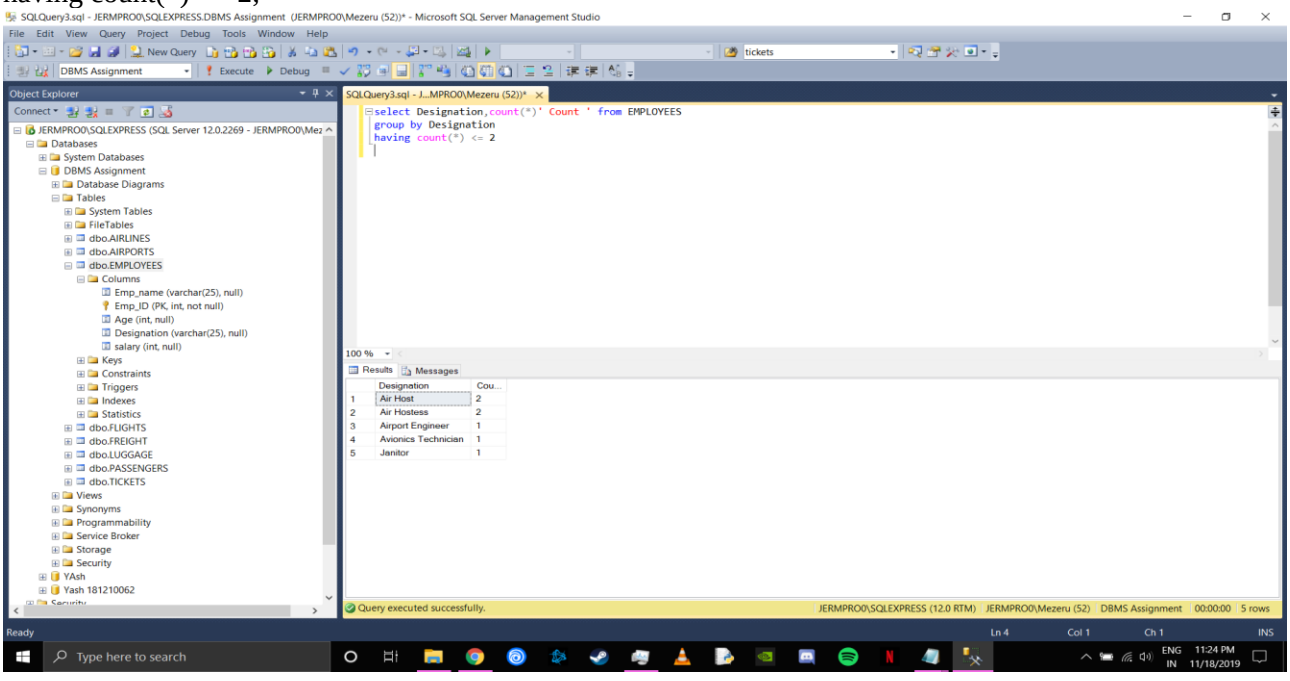
QUERY 5 :
Write a SQL Query to fetch the number of employees for each designation in descending order.

Select Designation,count(*) from EMPLOYEES
group by Designation
order by count(*) desc;



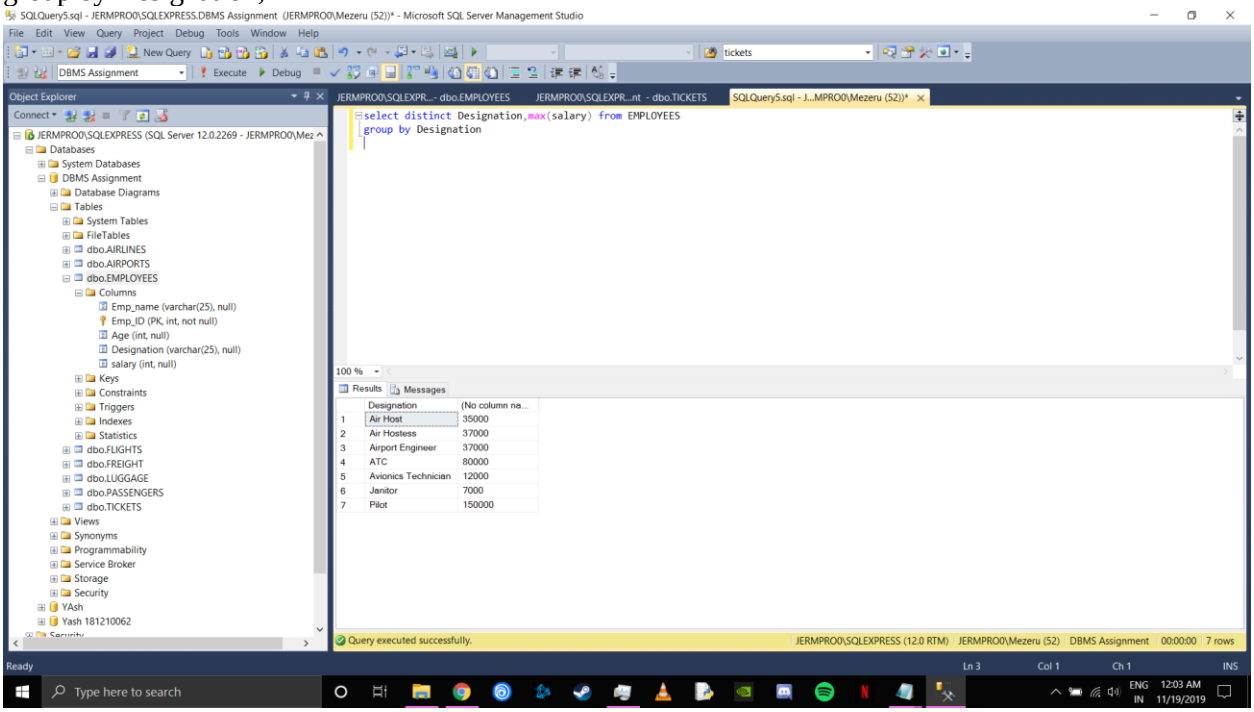
QUERY 6 :
Write a SQL Query to fetch the designation that have less than two people in it.

Select Designation,count(*)' Count ' from EMPLOYEES
group by Designation
having count(*) <= 2;

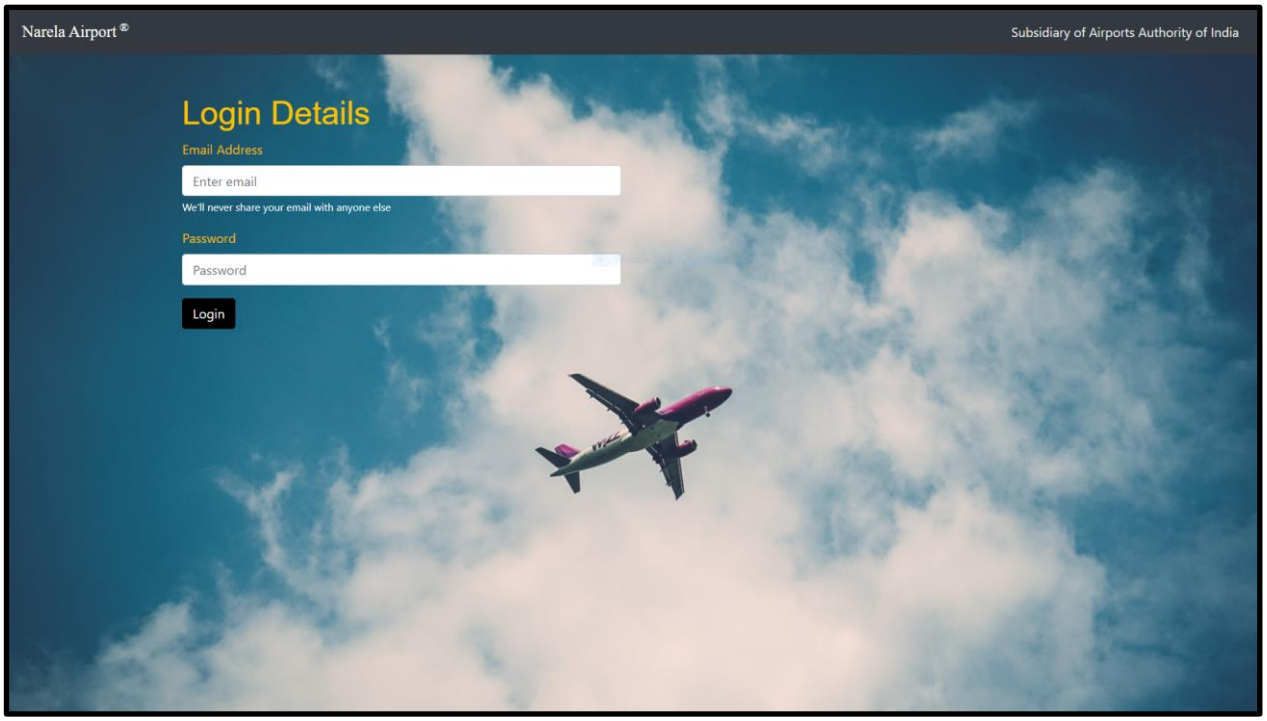


QUERY 7 :
Write a SQL Query to print the highest salary in each designation.

select distinct Designation,max(salary) from EMPLOYEES
group by Designation;



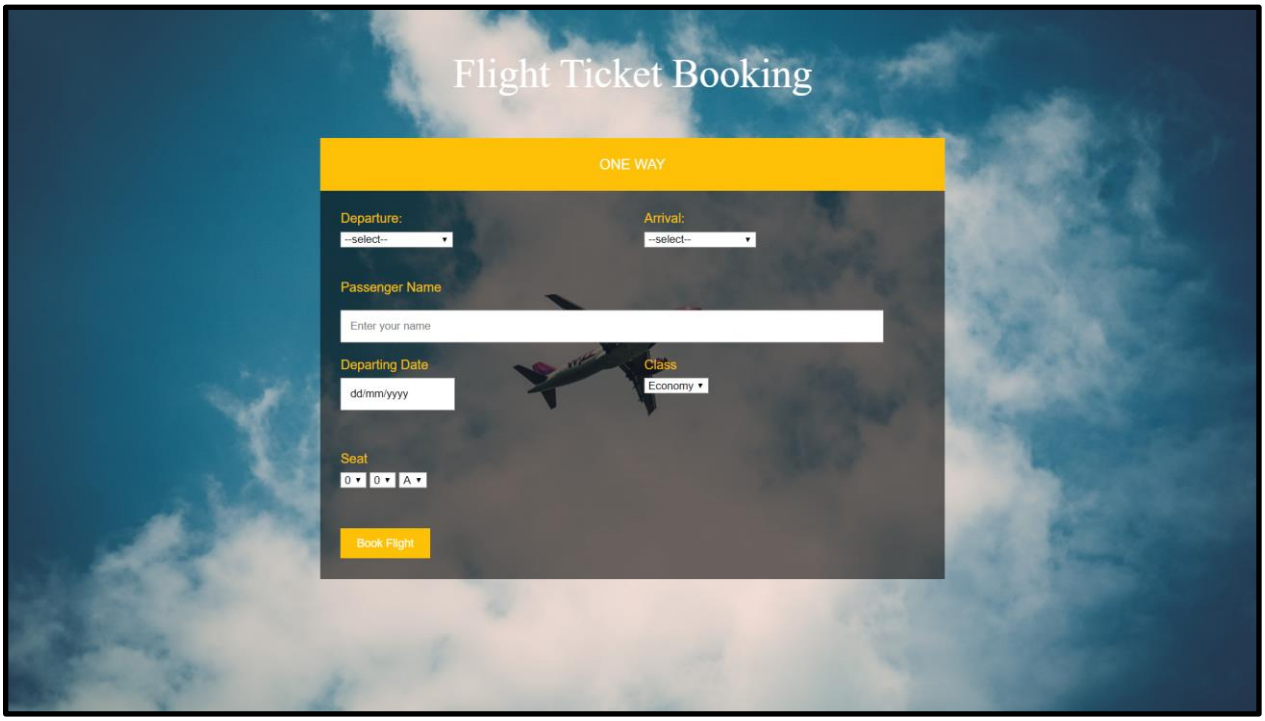
FRONT END



The main focus of this section is given to the primary webpage, which is the login page. The user of this system enters their credentials and logs in; now, depending on the type of user (Administrator, Manager, Pilot, Booking Agent, Gate Agent etc), the next screen to be shown varies.
For example, a booking agent would need access to the ticketing system, which allows him to book flights for the customers; whereas, a pilot would need to see their flight plans for the day, weather, etc. Personnels working in HR would see options to manage the workforce; hire new people, give incentives etc.

As stated about the 'third party' use, the data from the database could be provided to other systems which work for general public addressing and for providing the data regarding the flight status.

The webpages are created by the combined use of HTML (HyperText Markup Language) and CSS (Cascading Style Sheets).
The connectivity between the frontend (webpages) and the backend (MS SQL Server) could not be established due to the lack of in-depth knowledge of npm for NodeJS.


Flight Ticket Booking
ONE WAY
Departure:
--select--
Arrival:
--select--
Passenger Name
Enter your name
Departing Date
dd/mm/yyyy
Class
Economy
Seat
0
0
A
Book Flight

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