AIRLINES BOOKING SYSTEM

**Report/Writeup**

**List of reasons/constraints to justify the choice of DBMS.**

**1. Maintainability** : It provides easy usability. It allows database admins to maintain, control, update data into the database easily.

**2. Data Structure :** As RDBMS stores data in a table format, it is easily understood by the user , for example anybody could easily know when the flight took off and what is the source and destination , fare for specific flight and so on . Data is organized in a structured manner and matches entries by firing queries.Accessing and managing the data becomes easy while working with RDBMS by using the tables to store data in columns and rows.

**3. Privileges :** This feature of RDBMS allows database administrators to control activities over the database. Administrators can give specific access to a user rather than giving all Access. Administrators can also stop user access.

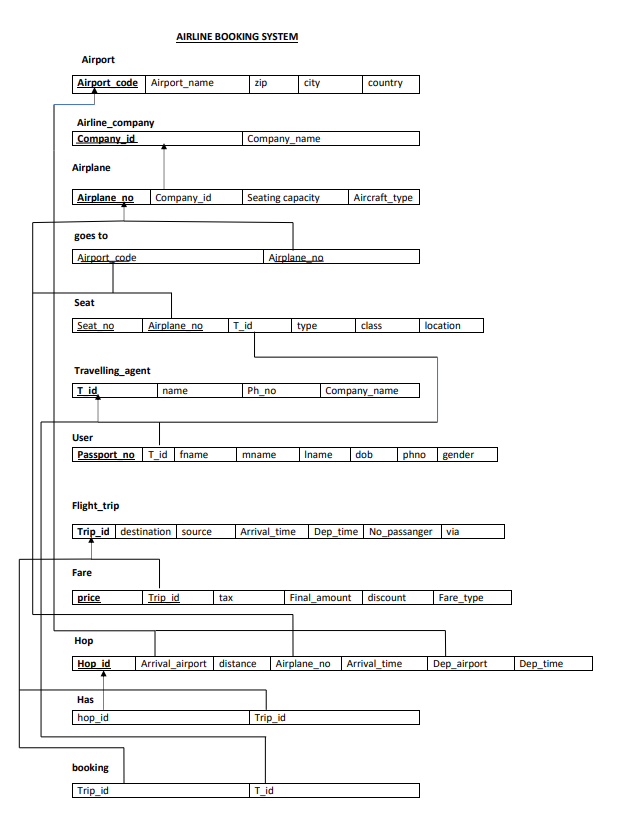
So here few access can be restricted to passengers where in granted to travelling agents. RDBMS provides Data Safety. data will be safe when the program crashes by authorization codes, other security layers.

**4. Scalability :** It can handle any amount of quantities of data uniformly. In RDBMS, indexes are used to sort data and speed up performance.

**5. Low Repetition and Redundancy :** In a database, the chances of data duplication are quite high as several users use the same database. A DBMS reduces data repetition and redundancy by creating a single data repository accessible by multiple users and minimizing isolated files with repetition.

**6. Improved File Consistency :** By implementing a database management system, organizations can create a standardized way to use files and ensure consistency of data with other systems and applications. Manipulating and streamlining advanced data management systems is essential.

**Relational Schema Diagram**



**Create Statements .SQL File**

| **drop database abs;**  **create database abs;**  **\c abs**  **create table airport**  **(**  **airport\_code varchar(4) not null,**  **airport\_name varchar(20),**  **city char(20) not null,**  **country char(20) not null,**  **zip int not null,**  **primary key(airport\_code)**  **);**  **create table airline\_company**  **(**  **company\_id varchar(3) not null,**  **company\_name varchar(20) not null,**  **primary key(company\_id)**  **);**  **create table airplane**  **(**  **airplane\_no varchar(4) not null,**  **aircraft\_type varchar(20) not null,**  **seating\_capacity int not null,**  **company\_id varchar(20),**  **primary key(airplane\_no),**  **foreign key(company\_id) references airline\_company(company\_id)**  **);**    **create table travelling\_agent**  **(**  **name char(20) not null,**  **t\_id varchar(20) not null,**  **ph\_no int not null,**  **company\_name varchar(20) not null,**  **primary key(t\_id)**  **);**  **create table Usser**  **(**  **fname char(20) not null,**  **mname char(20),**  **lname char(20) not null,**  **dob date not null,**  **ph\_no int(10) not null,**  **gender char(1) not null,**  **passport\_id varchar(20) not null,**  **t\_id varchar(20),**  **primary key(passport\_id),**  **foreign key(t\_id) references travelling\_agent(t\_id)**  **);**  **create table seat**  **(**  **seat\_no int not null,**  **type varchar(20) not null,**  **class varchar(15) not null,**  **location varchar(20),**  **airplane\_no varchar(10),**  **t\_id varchar(20),**  **primary key(seat\_no, airplane\_no),**  **foreign key(airplane\_no) references airplane(airplane\_no),**  **foreign key(t\_id) references travelling\_agent(t\_id)**  **);**  **create table flight\_trip**  **(**  **source char(20) not null,**  **destination char(20) not null,**  **via char(20),**  **dept\_time time not null,**  **arrival\_time time not null,**  **no\_of\_passengers int,**  **trip\_id varchar(20) not null,**  **primary key(trip\_id)**  **);**  **create table fare**  **(**  **discount int,**  **tax int,**  **final\_amount decimal not null,**  **price int not null,**  **fare\_type char(20) not null,**  **trip\_id varchar(20),**  **primary key(price),**  **foreign key(trip\_id) references flight\_trip(trip\_id)**  **);**  **create table goes\_to**  **(**  **airport\_code varchar(15) not null,**  **airplane\_no varchar(10) not null,**  **foreign key(airport\_code) references airport(airport\_code),**  **foreign key(airplane\_no) references airplane(airplane\_no)**  **);**  **create table booking**  **(**  **t\_id varchar(20) not null,**  **trip\_id varchar(20) not null,**  **PNR char(6) not null,**  **foreign key(t\_id) references travelling\_agent(t\_id),**  **foreign key(trip\_id) references flight\_trip(trip\_id)**  **);**  **create table hop**  **(**  **hop\_id varchar(20) not null,**  **distance decimal(7,2) not null,**  **dept\_time time,**  **arrival\_time time,**  **dept\_airport varchar(15) not null,**  **arrival\_airport varchar(15) not null,**  **airplane\_no varchar(10) not null,**  **primary key(hop\_id),**  **foreign key(arrival\_airport) references airport(airport\_code),**  **foreign key(dept\_airport) references airport(airport\_code),**  **foreign key(airplane\_no) references airplane(airplane\_no)**  **);**  **create table has**  **(**  **hop\_id varchar(20) not null,**  **trip\_id varchar(20) not null,**  **foreign key(hop\_id) references hop(hop\_id),**  **foreign key(trip\_id) references flight\_trip(trip\_id)**  **);** |
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**Insert Statements .SQL File**

| **\c abs**  **/\*INSERT into AIRPORT values(airport\_code, airport\_name, city, country, zip)\*/**  **INSERT into AIRPORT values('VIJU','Jammu Airport', 'Jammu', 'India', 190007);**  **INSERT into AIRPORT values('VAAH','Sardar Vallabhbhai Patel International Airport', 'Ahmedabad', 'India', 382475);**  **INSERT into AIRPORT values('VOBG','HAL Airport', 'Bengaluru', 'India', 560017);**  **INSERT into AIRPORT values('VIDD','Safdarjung Airport', 'New Delhi', 'India', 110003);**  **INSERT into AIRPORT values('VCCB', 'Batticaloa Airport', 'Batticaloa', 'Srilanka', 30000);**  **INSERT into AIRPORT values('VCCK', 'Koggala Airport', 'Galle', 'Srilanka', 80000);**  **INSERT into AIRPORT values('VGRJ', 'Shah Makhdum Airport', 'Rajshahi', 'Bangladesh', 6202);**  **INSERT into AIRPORT values('VHSS', 'Shun Tak Heliport', 'Sheung Wan', 'Hong Kong', 999077);**  **INSERT into AIRPORT values('VNKT', 'Tribhuvan International Airport', 'Kathmandu', 'Nepal', 44600);**  **INSERT into AIRPORT values('VQPR', 'Paro Airport', 'Paro', 'Bhutan', 12002);**  **INSERT into AIRPORT values('VLPS', 'Pakse Airport', 'Pakse', 'Laos', 1600);**  **/\*INSERT into AIRLINE\_COMPANY values(company\_id, company\_name);\*/**  **INSERT into AIRLINE\_COMPANY values('BML', 'Bismillah Airlines');**  **INSERT into AIRLINE\_COMPANY values('BAV', 'Bay Aviation Ltd');**  **INSERT into AIRLINE\_COMPANY values('DRK', 'Druk Air');**  **INSERT into AIRLINE\_COMPANY values('CPA', 'Cathay Pacific');**  **INSERT into AIRLINE\_COMPANY values('HKG', 'Government Flying Service');**  **INSERT into AIRLINE\_COMPANY values('LEP', 'Air Costa');**  **INSERT into AIRLINE\_COMPANY values('IGO', 'IndiGo');**  **INSERT into AIRLINE\_COMPANY values('PMW', 'Paramount Airways');**  **INSERT into AIRLINE\_COMPANY values('AMU', 'Air Macau');**  **INSERT into AIRLINE\_COMPANY values('LAO', 'Lao Airlines');**  **INSERT into AIRLINE\_COMPANY values('CIN', 'Cinnamon Air');**  **/\*INSERT into AIRPLANE values(airplane\_no, aircraft\_type, seating capaity, company\_id);\*/**  **INSERT into AIRPLANE values('A158', 'Multi-engine land class', 4000, 'BML');**  **INSERT into AIRPLANE values('B37M', 'Multi-engine land class', 3500, 'BAV');**  **INSERT into AIRPLANE values('B748', 'Multi-engine land class', 5900, 'DRK');**  **INSERT into AIRPLANE values('D328', 'Multi-engine land class', 1100, 'CPA');**  **INSERT into AIRPLANE values('CONI', 'Multi-engine land class', 900, 'HKG');**  **INSERT into AIRPLANE values('T210', 'Multi-engine land class', 2400, 'LEP');**  **INSERT into AIRPLANE values('BL8', 'Multi-engine land class', 1600, 'IGO');**  **INSERT into AIRPLANE values('E190', 'Multi-engine land class', 4600, 'PMW');**  **INSERT into AIRPLANE values('F2TH', 'Multi-engine land class', 2000, 'AMU');**  **INSERT into AIRPLANE values('GA8', 'Multi-engine land class', 3100, 'LAO');**  **INSERT into AIRPLANE values('DOVE', 'Multi-engine land class', 1500, 'CIN');**  **/\*INSERT into TRAVELLING\_AGENT values(name, travel\_id, ph\_no, company\_name)\*/**  **INSERT into TRAVELLING\_AGENT values('Raj', 'TA128101', 9182638213, 'Yatra');**  **INSERT into TRAVELLING\_AGENT values('Hank', 'TA273518', 7162643927, 'Cheapflights');**  **INSERT into TRAVELLING\_AGENT values('Jones', 'TA836374', 8263411032, 'Skyscanner');**  **INSERT into TRAVELLING\_AGENT values('Karthik', 'TA813576', 9173428819, 'Kiwi.com');**  **INSERT into TRAVELLING\_AGENT values('Bala', 'TA528169', 6172539271, 'LowFares.com');**  **INSERT into TRAVELLING\_AGENT values('Peter', 'TA252611', 9327436222, 'Goibibo');**  **INSERT into TRAVELLING\_AGENT values('Mike', 'TA826329', 8299917238, 'Makemytrip');**  **INSERT into TRAVELLING\_AGENT values('Shaurya', 'TA361892', 9122910199, 'Kesari Tours');**  **INSERT into TRAVELLING\_AGENT values('Chen', 'TA173023', 8279918201, 'Expedia');**  **INSERT into TRAVELLING\_AGENT values('Debarghya', 'TA162416', 7771912435, 'Priceline');**  **INSERT into TRAVELLING\_AGENT values('Abe', 'TA817253', 6618181717, 'Cheapflights');**  **/\*INSERT into USER values(fname, mname, lname, dob, ph\_no, gender, passport\_no, travel\_id)\*/**  **INSERT into USSER values('Roseline', NULL, 'Matthew', '1999-02-05', 9928183641, 'F', 'A2938101', 'TA128101');**  **INSERT into UsSER values('Sriranga', 'S', 'K', '1971-05-09', 8837856281, 'M', '19273518', 'TA273518');**  **INSERT into USSER values('Bhumika', 'M', 'S', '1985-11-16', 8777272622, 'F', 'M1836374', 'TA836374');**  **INSERT into USSER values('Simon', 'H', 'Peter', '2001-09-11', 6628367188, 'M', 'B2813576', 'TA813576');**  **INSERT into USSER values('Mohammad', NULL, 'Talha', '2000-07-23', 9992837599, 'M', '62528169', 'TA528169');**  **INSERT into USSER values('Anika', NULL, 'Sharma', '1994-04-29', 7199976567, 'F', 'H7252611', 'TA252611');**  **INSERT into USSER values('Debarghya', 'S', 'Bose', '1999-11-25', 6978179763, 'M', 'X1826329', 'TA826329');**  **INSERT into USSER values('Sonakshi', NULL, 'Dixit', '1964-08-13', 9739389992, 'F', '28361892', 'TA361892');**  **INSERT into USSER values('Agasthya', NULL, 'Kasthuri', '2005-06-01', 8199181772, 'M', 'A9173023', 'TA173023');**  **INSERT into USSER values('Akshay', 'A', 'Law', '1997-01-18', 8771871898, 'M', 'N8162416', 'TA162416');**  **INSERT into USSER values('Rashmi', NULL, 'Kousalya', '2001-12-14', 9188277163, 'F', 'C8817253', 'TA817253');**  **/\*INSERT into SEAT values(seat\_no, type, class, location, airplane\_no, travel\_id)\*/**  **INSERT into SEAT values(45, 'seater', 'Economy', 'Aisle', 'A158', 'TA128101');**  **INSERT into SEAT values(69, 'sleeper', 'First', 'Window', 'B37M', 'TA162416');**  **INSERT into SEAT values(236, 'couch', 'Business', 'Aisle', 'B748', 'TA173023');**  **INSERT into SEAT values(123, 'sleeper', 'First', 'Window', 'D328', 'TA252611');**  **INSERT into SEAT values(164, 'seater', 'Business', 'Window', 'CONI', 'TA273518');**  **INSERT into SEAT values(97, 'seater', 'Business', 'Aisle', 'T210', 'TA361892');**  **INSERT into SEAT values(61, 'seater', 'Economy', 'Middle', 'BL8', 'TA528169');**  **INSERT into SEAT values(401, 'couch', 'First', 'Aisle', 'E190', 'TA813576');**  **INSERT into SEAT values(10, 'seater', 'Economy','Middle', 'F2TH', 'TA817253');**  **INSERT into SEAT values(538, 'sleeper', 'Business', 'Middle', 'GA8', 'TA836374');**  **INSERT into SEAT values(379, 'couch', 'First', 'Window', 'DOVE', 'TA826329');**  **/\*INSERT into FLIGHT\_TRIP values(source, dest, via, dep\_time, arrival\_time, no\_of\_passengers, trip\_id)\*/**  **INSERT into FLIGHT\_TRIP values('VIJU', 'VLPS', NULL, '13:00:00', '21:20:00', 2655, 'T123');**  **INSERT into FLIGHT\_TRIP values('VOBG', 'VHSS', NULL, '19:30:00', '02:00:00', 1829, 'T261');**  **INSERT into FLIGHT\_TRIP values('VAAH', 'VNKT', NULL, '23:40:00', '18:30:00', 923, 'T433');**  **INSERT into FLIGHT\_TRIP values('VNKT', 'VIDD', NULL, '06:00:00', '12:15:00', 5432, 'T728');**  **INSERT into FLIGHT\_TRIP values('VLPS', 'VQPR', NULL, '11:45:00', '14:30:00', 4276, 'T153');**  **INSERT into FLIGHT\_TRIP values('VGRJ', 'VOBG', NULL, '08:10:00', '13:00:00', 3701, 'T192');**  **INSERT into FLIGHT\_TRIP values('VIDD', 'VCCK', NULL, '15:25:00', '19:55:00', 2200, 'T839');**  **INSERT into FLIGHT\_TRIP values('VHSS', 'VLPS', NULL, '21:20:00', '04:10:00', 799, 'T523');**  **INSERT into FLIGHT\_TRIP values('VCCB', 'VGRJ', NULL, '05:00:00', '10:35:00', 3302, 'T222');**  **INSERT into FLIGHT\_TRIP values('VQPR', 'VOBG', NULL, '17:50:00', '22:40:00', 1220, 'T437');**  **INSERT into FLIGHT\_TRIP values('VCCK', 'VAAH', NULL, '09:35:00', '12:25:00', 2937, 'T325');**  **/\*INSERT into FARE values(discount, tax, final\_amt, price, fare\_type, trip\_id)\*/**  **INSERT into FARE values(100.00, 45.53, 1645.53, 1700.00, 'cash', 'T123');**  **INSERT into FARE values(150.00, 53.22, 1903.22, 2000.00, 'online', 'T261');**  **INSERT into FARE values(90.00, 26.49, 1336.49, 1400.00, 'online', 'T433');**  **INSERT into FARE values(125.00, 57.03, 1732.03, 1800.00, 'card', 'T728');**  **INSERT into FARE values(110.00, 49.77, 2039.77, 2100.00, 'card', 'T153');**  **INSERT into FARE values(200.00, 91.04, 2391.04, 2500.00, 'online', 'T192');**  **INSERT into FARE values(80.00, 32.16, 1552.16, 1600.00, 'cash', 'T839');**  **INSERT into FARE values(75.00, 23.98, 1168.98, 1200.00, 'online', 'T523');**  **INSERT into FARE values(125.00, 56.12, 1681.12, 1750.00, 'cash', 'T222');**  **INSERT into FARE values(175.00, 69.25, 2194.25, 2300.00, 'card', 'T437');**  **INSERT into FARE values(125.00, 57.13, 1732.13, 1820.00, 'card', 'T325');**  **/\*INSERT into GOES\_TO values(airport\_code, airplane\_no)\*/**  **INSERT into GOES\_TO values('VIJU', 'A158');**  **INSERT into GOES\_TO values('VAAH', 'B37M');**  **INSERT into GOES\_TO values('VOBG', 'B748');**  **INSERT into GOES\_TO values('VIDD', 'D328');**  **INSERT into GOES\_TO values('VCCB', 'CONI');**  **INSERT into GOES\_TO values('VCCK', 'T210');**  **INSERT into GOES\_TO values('VGRJ', 'BL8');**  **INSERT into GOES\_TO values('VHSS', 'E190');**  **INSERT into GOES\_TO values('VNKT', 'F2TH');**  **INSERT into GOES\_TO values('VQPR', 'GA8');**  **INSERT into GOES\_TO values('VLPS', 'GA8');**  **/\*INSERT into BOOKING values(travel\_id, trip\_id, PNR)\*/**  **INSERT into BOOKING values('TA128101', 'T123', 'X37Q1C');**  **INSERT into BOOKING values('TA273518', 'T261', 'HS829V');**  **INSERT into BOOKING values('TA836374', 'T433', 'B927SH');**  **INSERT into BOOKING values('TA813576', 'T728', 'K88DGA');**  **INSERT into BOOKING values('TA528169', 'T153', 'SI0123');**  **INSERT into BOOKING values('TA252611', 'T192', 'UAG237');**  **INSERT into BOOKING values('TA826329', 'T839', '27GA7W');**  **INSERT into BOOKING values('TA361892', 'T523', '81GAJS');**  **INSERT into BOOKING values('TA173023', 'T222', 'V18WYB');**  **INSERT into BOOKING values('TA162416', 'T437', '9XBAU2');**  **INSERT into BOOKING values('TA817253', 'T325', 'U9DCB6');**  **/\*INSERT into HOP values(hop\_id, distance, dep\_time, arrival\_time, dep\_airport, arrival\_airport, airplane\_no)\*/**  **INSERT into HOP values('A122', 1235, '13:00:00', '15:20:00', 'VIJU', 'VAAH', 'A158');**  **INSERT into HOP values('B817', 967, '19:30:00', '22:00:00', 'VAAH', 'VOBG', 'B37M');**  **INSERT into HOP values('H412', 843, '23:40:00', '03:30:00', 'VOBG', 'VIDD', 'B748');**  **INSERT into HOP values('B019', 1249, '06:00:00', '10:15:00', 'VIDD', 'VCCB', 'D328');**  **INSERT into HOP values('L726', 2013, '11:45:00', '14:30:00', 'VCCB', 'VCCK', 'CONI');**  **INSERT into HOP values('N661', 1651, '08:10:00', '09:00:00', 'VCCK', 'VGRJ', 'T210');**  **INSERT into HOP values('I915', 702, '15:25:00', '16:55:00', 'VGRJ', 'VHSS', 'BL8');**  **INSERT into HOP values('Y524', 911, '21:20:00', '01:10:00', 'VHSS', 'VNKT', 'E190');**  **INSERT into HOP values('C880', 1393, '05:00:00', '08:35:00', 'VNKT', 'VQPR', 'F2TH');**  **INSERT into HOP values('D911', 1086, '17:50:00', '18:40:00', 'VQPR', 'VLPS', 'GA8');**  **INSERT into HOP values('J333', 1198, '09:35:00', '11:25:00', 'VLPS', 'VIJU', 'DOVE');**  **/\*INSERT into HAS values(hop\_id, trip\_id)\*/**  **INSERT into HAS values('A122', 'T123');**  **INSERT into HAS values('B817', 'T261');**  **INSERT into HAS values('H412', 'T433');**  **INSERT into HAS values('B019', 'T728');**  **INSERT into HAS values('L726', 'T153');**  **INSERT into HAS values('N661', 'T192');**  **INSERT into HAS values('I915', 'T839');**  **INSERT into HAS values('Y524', 'T523');**  **INSERT into HAS values('C880', 'T222');**  **INSERT into HAS values('D911', 'T437');**  **INSERT into HAS values('J333', 'T325');** |
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**Member Contributions**

| **Name**  **SRN** | **Distribution of work** |
| --- | --- |
| Sahana G  PES1UG19CS412 | Report ,Relation schema , Research on DBMS |
| Pavana  PES1UG20CS822 | Relation schema , Research on tools and DBMS |
| Sathi Sreyahsri  PES1UG19CS434 | Create statements, Research on tools and DBMS |
| Sanjana  PES1UG19CS431 | Inserting values,Research on tools and DBMS |