M.Kumarasamy College of Engineering
NAAC Accredited Autonomous Institution
Approved by AICTE & Affiliated to Anna University
ISO 9001:2015 Certified Institution
Thalavapalayam, Karur - 639 113, TAMILNADU.

A Project Report

on

AIRLINE MANAGEMENT SYSTEM

Submitted in partial fulfillment of requirements for the award of the course

of

EGB1221-DATABASE MANAGEMENT SYSTEMS

Under the guidance of

Mrs. T. BALAMANI M.E.,(Ph.D).,

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Submitted By

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

M.KUMARASAMY COLLEGE OF ENGINEERING
(Autonomous)

KARUR – 639 113

JUNE 2025

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(Autonomous Institution affiliated to Anna University, Chennai)

KARUR – 639 113

BONAFIDE CERTIFICATE

This is to certify that this project report on **"AIRLINE MANAGEMENT SYSTEM"** is the bonafide work of **S.SANJAI(927623BEC190), S.YATHISHADITIYA (927623BEC247)**who carried out the project work during the academic year 2024 - 2025 under my supervision.

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

VISION OF THE INSTITUTION

To emerge as a leader among the top institutions in the field of technical education

MISSION OF THE INSTITUTION

- Produce smart technocrats with empirical knowledge who can surmount the global challenges
- Create a diverse, fully-engaged, learner-centric campus environment to provide quality education to the students
- Maintain mutually beneficial partnerships with our alumni, industry, and Professional associations

DEPARTMENT VISION, MISSION, PEO, PO AND PSO

Vision

To empower the Electronics and Communication Engineering students with emerging technologies, professionalism, innovative research and social responsibility.

Mission

M1: Attain the academic excellence through innovative teaching learning process, research areas & laboratories and Consultancy projects.

M2: Inculcate the students in problem solving and lifelong learning ability.

M3: Provide entrepreneurial skills and leadership qualities.

M4: Render the technical knowledge and skills of faculty members.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

- **PEO1:** Graduates will have successful Career in software industries and R&D divisions through continuous learning
- **PEO2:** Graduates will provide effective solutions for real world problems in the key domain of computer science and engineering and engage in lifelong learning.
- **PEO3:** Graduates will excel in their profession by being ethically and socially responsible

PROGRAM OUTCOMES (POs)

Engineering students will be able to:

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, give and receive clear instructions.
11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSOs)

- **PSO1: Professional Skills:** Ability to apply the knowledge of computing techniques to design and develop computerized solutions for the problems.
- **PSO2: Successful career:** Ability to utilize the computing skills and ethical values in creating a successful career.

ABSTRACT

The Airplane Management System is designed to efficiently manage airport operations, including flight scheduling, passenger services, ticket booking, and employee management. The system integrates key entities such as airports, airlines, flights, passengers, tickets, and employees, enabling smooth coordination among various airport functions. It supports real-time tracking of flights, secure booking and ticketing for passengers, and structured staff assignment. This ER-based model ensures streamlined data flow, reduces manual errors, and enhances service delivery within airport environments. The system provides a scalable foundation for managing complex aviation operations with improved accuracy and reliability.

ABSTRACT WITH POs AND PSOs MAPPING

ABSTRACT	COs MAPPED	POs MAPPED	PSOs MAPPED
The Airline Management System is a comprehensive software application designed to streamline and automate the various operations of an airline. The system facilitates the efficient handling of tasks such as flight scheduling, ticket booking, passenger and crew management, and aircraft maintenance tracking. By integrating these modules into a centralized platform, the system enhances operational efficiency, reduces human error, and improves customer satisfaction.	CO1 CO2 CO3	PO1 PO2 PO3 PO4 PO5 PO6 PO8 PO9 PO10 PO12	PSO1 PSO2

SUPERVISOR **HEAD OF THE DEPARTMENT**

TABLE OF CONTENTS

CHAPTER 1

INTRODUCTION

1.1 OBJECTIVE

The objective of this project is to develop a user-friendly and efficient Airline Reservation System that allows passengers to book flights, check seat availability, and make secure payments online, while also providing administrative tools for managing flights, bookings, and user data. By automating the entire reservation process, the system aims to reduce manual errors, save time, and offer a seamless experience for both users and airline staff. It is designed to handle real-time updates, ensure data accuracy, and support future scalability and integration with other services.

1.2 OVERVIEW

In today's globalized environment, air travel plays a pivotal role. Manual systems for ticket booking are becoming obsolete due to inefficiencies and the need for real-time service. This project proposes a centralized airline reservation system capable of handling multiple users simultaneously, ensuring quick booking, secure transactions, and data consistency. The application serves as a bridge between the airline and passengers, supporting operations like booking, rescheduling, cancellations, payment, and reporting. The system also reduces dependency on paper records by maintaining a digital repository of all transactions.

1.3 DATABASE MANAGEMENT SYSTEMS' CONCEPTS

The Airline Reservation System is heavily dependent on the principles and architecture of a Relational Database Management System (RDBMS) to ensure efficient data storage, retrieval, and manipulation. A DBMS provides the foundation for maintaining the integrity and consistency of large volumes of data generated through flight bookings, user interactions, and payment transactions. Key concepts utilized in this system include:

- **Entity-Relationship Modeling:** The design begins with E-R diagrams to visualize data entities such as Users, Flights, Bookings, and Payments, along with their interrelationships. This helps in identifying primary keys and foreign keys crucial for relational mapping.
- **Normalization:** Data is organized into well-structured tables following normalization rules (up to 3NF or higher) to eliminate redundancy, improve data integrity, and reduce anomalies during insert, update, or delete operations.
- **Primary and Foreign Keys:** Every table is uniquely identified using primary keys, while foreign keys are used to establish links between tables, such as associating each booking with a user and a flight. This enforces referential integrity across the system.
- **Data Integrity Constraints:** Constraints such as NOT NULL, UNIQUE, CHECK, and DEFAULT are applied to ensure that only valid and consistent data is entered into the system.
- **SQL Queries:** Structured Query Language (SQL) is used extensively for tasks such as data insertion, updates, deletions, and complex queries like filtering available flights, retrieving booking histories, and generating reports.
- **Stored Procedures and Triggers:** To enhance performance and maintain business rules at the database level, stored procedures are used for repetitive operations like booking confirmation and seat updates. Triggers automatically execute predefined actions, such as updating the number of available seats after a successful booking.
- **Transactions and ACID Properties:** The system ensures reliability by implementing transaction control commands (BEGIN, COMMIT, ROLLBACK). These ensure that multiple operations involved in a booking or payment are processed as a single unit, maintaining Atomicity, Consistency, Isolation, and Durability (ACID)

CHAPTER 2
PROJECT METHODOLOGY

2.1PROPOSED WORK

- Automate Ticket Booking & Reservations – A user-friendly online portal for seamless booking, modifications, and cancellations.
- Centralized Database Management – Store and manage passenger details, flight schedules, and ticket records efficiently.
- Enhanced Security Measures – Implement authentication, encryption, and role-based access control to protect data.
- Optimized Flight Scheduling & Seat Allocation – Real-time updates to minimize delays and prevent overbooking.
- Integrated Baggage Tracking System – Digital baggage tags and real-time tracking to reduce lost luggage incidents.

Automated Notifications & Customer Support – Send flight status updates

- Requirement Analysis: Understanding features needed for both users and administrators.
- Design: Creating mockups, data flow diagrams (DFD), and database schema.
- Implementation: Coding modules using frontend and backend technologies.
- Testing: Functional and non-functional testing for reliability and security.

2.2ARCHITECTURE

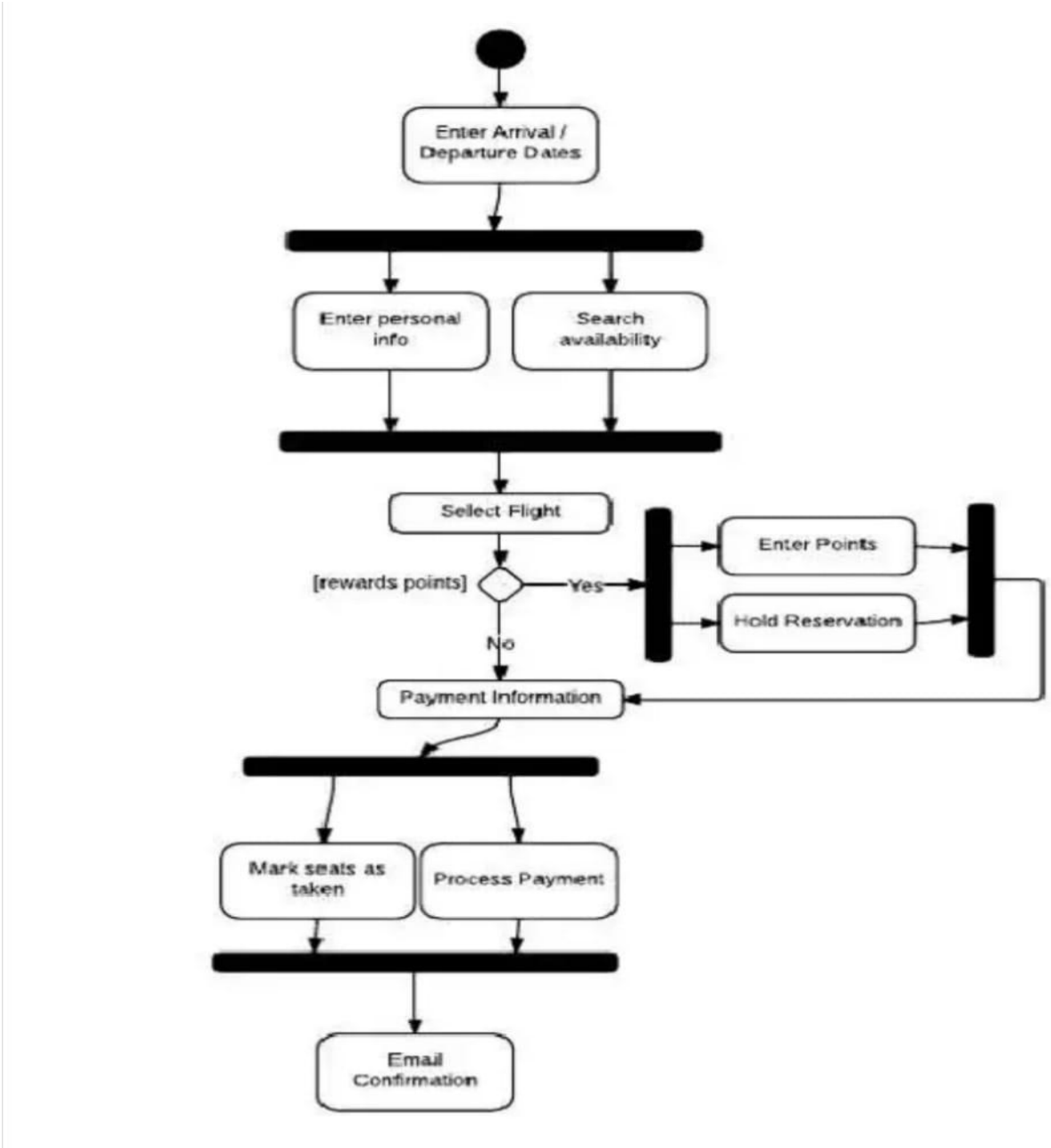

Fig 2.1 Architecture Diagram

2.3 E-R DIAGRAM

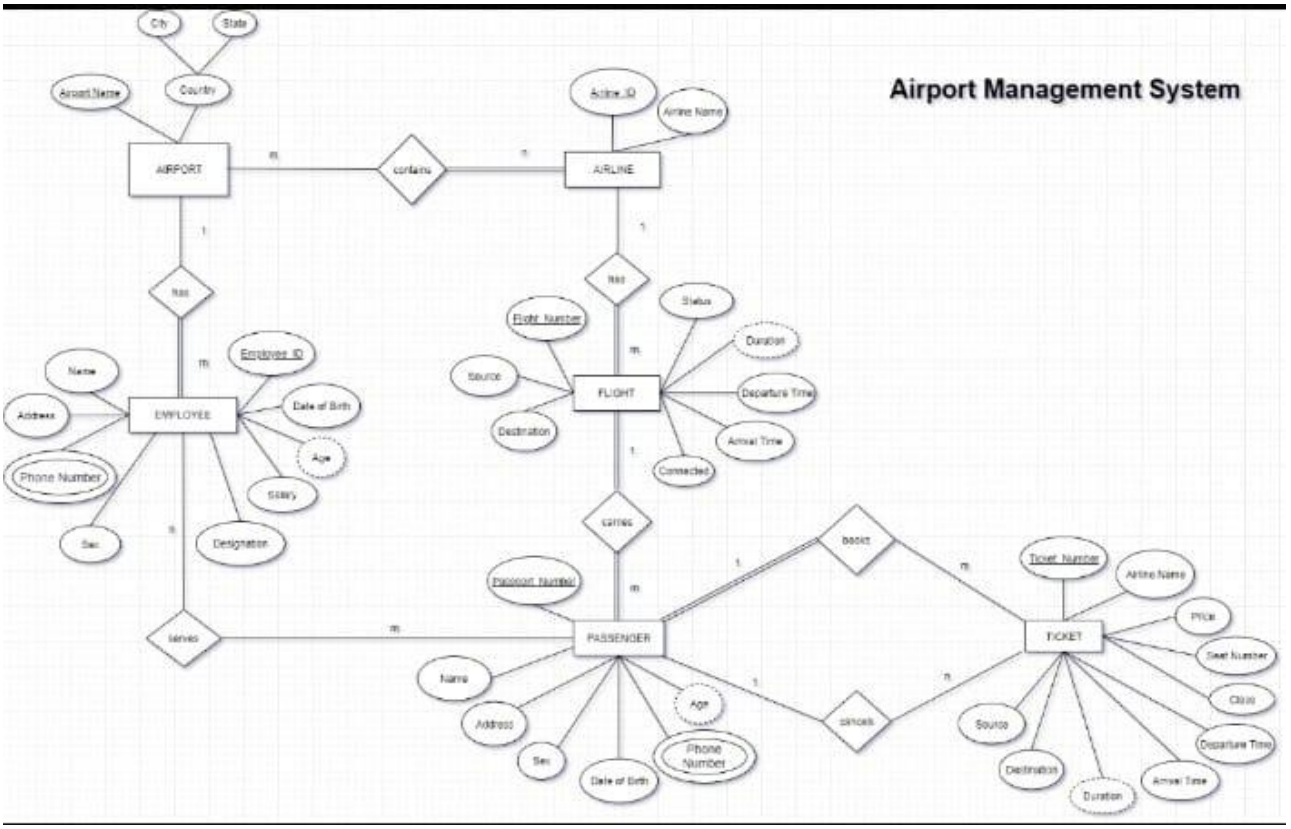

Fig 2.2 ER Diagram

This ER diagram represents an Airplane Management System with key entities like Airplane, Airline, Flight, Passenger, Ticket, and Employee.

Airplane contain multiple airlines, and each airline operates several flights.

Flights carry passengers, and passengers book tickets containing flight and seat details.

Employees are assigned to airports and serve passengers during operations.

The system ensures efficient management of flights, bookings, passengers, and staff.

CHAPTER 3

MODULE DESCRIPTION

3.1 Module 1

USER MODULE

This module enables:

- User Registration & Authentication: Secure sign-up/login using hashing for passwords.
- Flight Search Engine: Filter flights based on source, destination, and travel date.
- Booking Process: Choose flights, seats, enter passenger info, and confirm.
- Ticket Management: Download e-tickets, cancel or reschedule existing bookings.
- Booking History: View previous and upcoming trips.

3.2 Module 2

ADMIN MODULE

Admin users have full control over the system's data.

3.2.1 Flight Management

- Create Flights: Add flight number, route, timings, and seating capacity.
- Update Schedules: Modify departure/arrival times.
- Cancel Flights: Remove or temporarily disable flights.
- View Passenger List: Download reports or manifests.

Admin authentication is enforced to prevent unauthorized access.

3.3 Module 3

BOOKING MODULE

This module contains the logic for:

- Seat Selection: Display available seats dynamically.
- Booking Confirmation: Generates a unique booking ID and reserves selected seats.
- Error Handling: Ensures seat overbooking or duplicate entries are avoided.
- All bookings are timestamped and stored for traceability.

CHAPTER 4

RESULTS AND DISCUSSION

Fig 4.1 Home Page

This is the homepage of Aadith Airlines' web portal, featuring navigation options like Home, Book Tickets, About Us, Contact Us, and Login.It includes a welcome message and a visual of global flight routes, representing international airline operations.

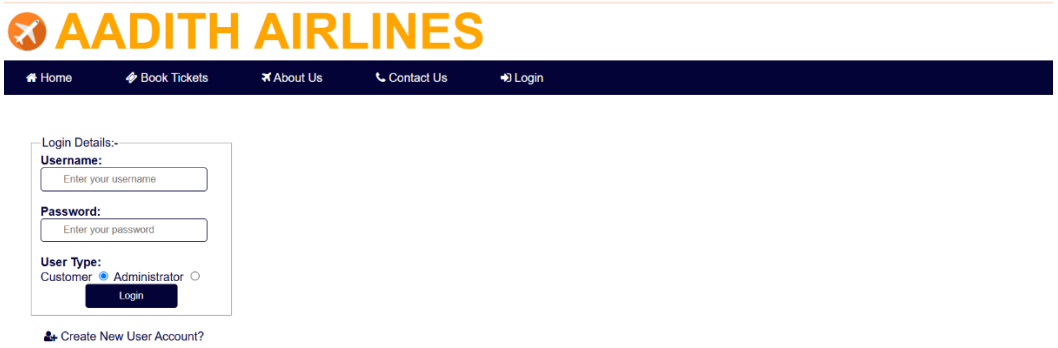

Fig 4.2 User Module

It allows users to log in by entering their username, password, and selecting their user type (Customer or Administrator), with an option to create a new user account.

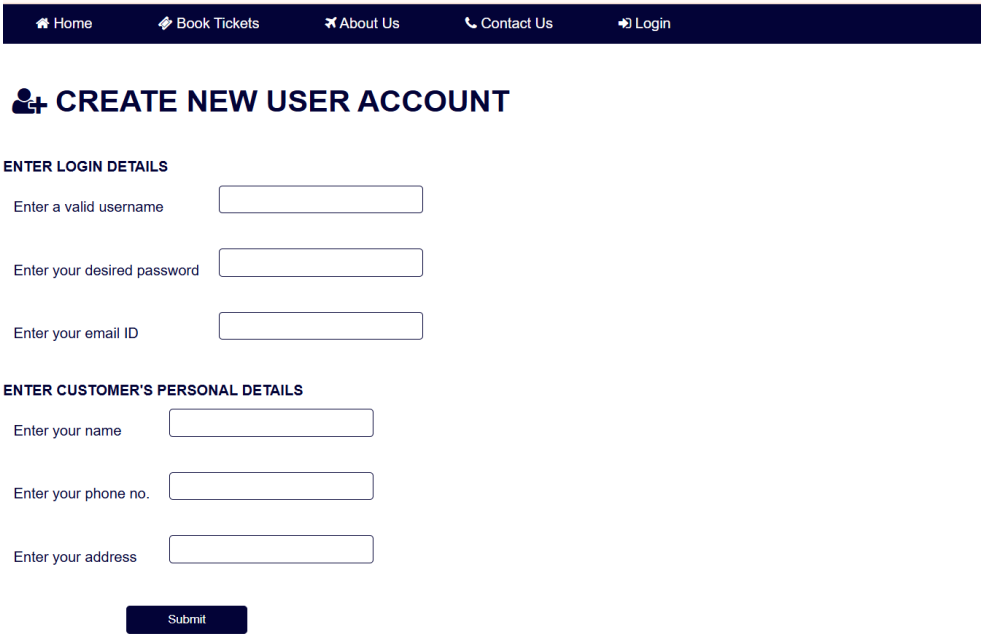

Fig 4.3 Booking Module

It includes fields to enter login details (username, password, email ID) and personal information (name, phone number, address), allowing new customers to register and access the airline's services

CHAPTER 5
CONCLUSION

The Airport Management System is designed to streamline and automate core airport operations. It efficiently handles data related to flights, passengers, tickets, employees, and bookings. The system reduces manual errors and improves the accuracy of operations. Users can easily register, log in, and book flight tickets through a user-friendly interface. Flight information such as departure time, arrival time, and duration is well managed. Passenger records are securely stored, ensuring easy access and data integrity. Employee details are managed for proper allocation and task assignment. The system allows both customer and admin-level access for smooth functioning. With centralized data control, it ensures quick retrieval and report generation. It helps enhance the overall customer experience through real-time updates. The platform supports scalability and can be expanded as required. In conclusion, it offers a reliable and modern solution for airport management.

REFERENCES:

[1] A. S. Tanenbaum and D. J. Wetherall, "Computer networks," *5th ed.*, Pearson Education, 2011.DOI: 10.5555/1972548

[2] H. Garcia-Molina, J. D. Ullman, and J. Widom, "Database systems: The complete book," *2nd ed.*, Pearson, 2008.ISBN: 978-0131873254

[3] D. T. A. Nguyen and A. Dinh, "A web-based flight ticket booking system: Design and implementation," *International Journal of Computer Applications*, vol. 113, no. 7, pp. 1–6, Mar. 2015.DOI: 10.5120/19836-1843

APPENDIX

(Coding)

```
INSERT INTO organizational_info VALUES ('B
Airways','+8825774609','info@bairways.com','314, 3rd Floor, Gotham Towers',
'Melbourne, Victoria', 'Australia','2229993949');

----------INSERT CUSTOMER CATEGORY----------
INSERT INTO customer_category(cat_name,discount_percentage,min_bookings)
VALUES ('General',0,0);
INSERT INTO customer_category(cat_name,discount_percentage,min_bookings)
VALUES ('Frequent',5,5);
INSERT INTO customer_category(cat_name,discount_percentage,min_bookings)
VALUES ('Gold',9,10);

----------INSERTING LOCATIONS----------
INSERT INTO location(name) VALUES ('Sri Lanka');
INSERT INTO location(name, parent_id) VALUES ('Hambantota',1);
INSERT INTO location(name, parent_id) VALUES ('Colombo',1);

INSERT INTO location(name) VALUES ('Indonesia');
INSERT INTO location(name, parent_id) VALUES ('Jakarta',4);
INSERT INTO location(name, parent_id) VALUES ('Bali',4);

INSERT INTO location(name) VALUES ('India');
INSERT INTO location(name, parent_id) VALUES ('Delhi',7);
INSERT INTO location(name, parent_id) VALUES ('New Delhi',8);
```

```
INSERT INTO location(name, parent_id) VALUES ('Maharashtra',7);
INSERT INTO location(name, parent_id) VALUES ('Mumbai',10);

INSERT INTO location(name, parent_id) VALUES ('Tamil Nadu',7);
INSERT INTO location(name, parent_id) VALUES ('Chennai',12);
INSERT INTO location(name) VALUES ('Thailand');
INSERT INTO location(name, parent_id) VALUES ('Bangkok',14);
INSERT INTO location(name) VALUES ('Singapore');
INSERT INTO location(name, parent_id) VALUES ('Changi',16);
----------INSERTING AIRPORTS----------
INSERT INTO airport(airport_code,location_id,destination_image)
INSERT INTO airport(airport_code,location_id,destination_image)
VALUES('HRI',2,'http://www.maga.lk/wp-content/uploads/2015/02/11-
Hambantota-Admin-06.jpg');
INSERT INTO airport(airport_code,location_id,destination_image)
VALUES('CGK',5,'https://media-cdn.tripadvisor.com/media/attractions-splice-
spp-674x446/0a/b2/e2/00.jpg');
INSERT INTO airport(airport_code,location_id,destination_image)
VALUES('DPS',6,'https://img.traveltriangle.com/blog/wp-
content/uploads/2015/05/Places-to-visit-in-Bali-Cover1.jpg');
INSERT INTO airport(airport_code,location_id,destination_image)
VALUES('DEL',9,'https://www.fabhotels.com/blog/wp-
content/uploads/2019/02/Akshardham-Temple.jpg');
```

```
INSERT INTO airport(airport_code,location_id,destination_image)
VALUES('BOM',11,'https://www.travenix.com/wp-content/uploads/2017/06/Taj-Mahal-Palace-historical-mumbai.jpg');
INSERT INTO airport(airport_code,location_id,destination_image)
 VALUES('MAA',13,'https://media-cdn.tripadvisor.com/media/attractions-splice-spp-674x446/09/4b/85/80.jpg');

INSERT INTO airport(airport_code,location_id,destination_image)
VALUES('BKK',15,'https://mediaim.expedia.com/localexpert/644344/37750169-c5b9-4120-a363-87fac226fb02.jpg?impolicy=resizecrop&rw=1005&rh=565');
INSERT INTO airport(airport_code,location_id,destination_image)
VALUES('DMK',15,'https://www.iicom.org/wp-content/uploads/30UltimateThailand__HERO_shutterstock_698378932.jpg');

INSERT INTO airport(airport_code,location_id,destination_image)
VALUES('SIN',17,'https://images.adsttc.com/media/images/5481/daaa/e58e/cef0/ed00/000e/large_jpg/Jewel_Changi_Airport_Aerial_view_CP.jpg?1417796254');

----------INSERTING TRAVELLER CLASS----------
INSERT INTO traveller_class(class_name) VALUES ('Platinum');
INSERT INTO traveller_class(class_name) VALUES ('Business');
INSERT INTO traveller_class(class_name) VALUES ('Economy');
```

----------INSERTING AIRCRAFT MODELS----------

--max_load in kg -- speed in kmph -- fuel_capacity in litres—

```
INSERT INTO
aircraft_model(model_name,variant,manufacturer_name,economy_seat_capacity,
business_seat_capacity,platinum_seat_capacity,economy_seats_per_row,business
_seats_per_row,platinum_seats_per_row,max_load,fuel_capacity,avg_airspeed,i
mage_link)
VALUES('Boeing 737','MAX 10','Boeing
Commercial',150,24,12,6,4,4,88300,25941,838,'https://www.boeing.com/resource
s/boeingdotcom/commercial/737max10/assets/images/gallery/gallery-full-0.jpg');

INSERT INTO
aircraft_model(model_name,variant,manufacturer_name,economy_seat_capacity,
business_seat_capacity,platinum_seat_capacity,economy_seats_per_row,business
_seats_per_row,platinum_seats_per_row,max_load,fuel_capacity,avg_airspeed,i
mage_link)
VALUES('Boeing 757','300','Boeing
Commercial',198,32,12,6,4,4,123830,43400,918,'https://www.skytamer.com/1.2/2
011/20111008-051.jpg');
INSERT INTO
aircraft_model(model_name,variant,manufacturer_name,economy_seat_capacity,
business_seat_capacity,platinum_seat_capacity,economy_seats_per_row,business
_seats_per_row,platinum_seats_per_row,max_load,fuel_capacity,avg_airspeed,i
mage_link)
```

```
VALUES('Airbus
A380','800','Airbus',500,48,20,10,6,4,575000,323546,903,'https://airbus-
h.assetsadobe2.com/is/image/content/dam/products-and-solutions/formation-
flight/Airbus-50th-years-anniversary-formation-flight-take-off-
015.jpg?wid=991&fit=fit,1&qlt=85,0');

----------INSERTING AIRCRAFT INSTANCES----------
INSERT INTO aircraft_instance (model_id,airport_code,aircraft_state) VALUES
(1,'BIA','On-Ground');
INSERT INTO aircraft_instance (model_id,airport_code,aircraft_state) VALUES
(1,'DPS','On-Ground');
INSERT INTO aircraft_instance (model_id,airport_code,aircraft_state) VALUES
(1,'HRI','On-Ground');

INSERT INTO aircraft_instance (model_id,airport_code,aircraft_state) VALUES
(2,'BIA','On-Ground');
INSERT INTO aircraft_instance (model_id,airport_code,aircraft_state) VALUES
(2,'DEL','On-Ground');
INSERT INTO aircraft_instance (model_id,airport_code,aircraft_state) VALUES
(2,'BOM','On-Ground');
INSERT INTO aircraft_instance (model_id,airport_code,aircraft_state) VALUES
(2,'MAA','On-Ground');

INSERT INTO aircraft_instance (model_id,airport_code,aircraft_state) VALUES
(3,'BIA','On-Ground');
```

----------INSERTING ROUTES----------

```
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B001','BIA', 'BKK', '03:20');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B002','BIA', 'CGK', '04:45');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B003','BIA', 'DPS', '07:15');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B004','BIA', 'DEL', '03:05');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B005','BIA', 'BOM', '02:25');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B006','BIA', 'MAA', '01:15');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B007','BIA', 'DMK', '03:50');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B008','BIA', 'SIN', '03:50');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B009','HRI', 'SIN', '03:40');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B010','SIN', 'BIA', '03:40');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B011','SIN', 'HRI', '03:30');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B012','SIN', 'CGK', '01:40');
```

```
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B013','SIN', 'DPS', '02:20');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B014','SIN', 'DEL', '05:40');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B015','SIN', 'BOM', '05:05');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B016','SIN', 'MAA', '03:55');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B017','SIN', 'BKK', '02:15');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B018','SIN', 'DMK', '02:20');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B019','CGK', 'BIA', '04:35');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B020','CGK', 'DEL', '08:50');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B021','CGK', 'BOM', '08:10');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B022','CGK', 'MAA', '07:05');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B023','CGK', 'BKK', '03:15');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B024','CGK', 'DMK', '03:40');
```

```
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B025','CGK', 'SIN', '01:40');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B026','DPS', 'BIA', '07:50');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B027','DPS', 'DEL', '09:55');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B028','DPS', 'BOM', '09:00');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B029','DPS', 'MAA', '08:40');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B030','DPS', 'BKK', '04:10');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B031','DPS', 'DMK', '04:15');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B032','DPS', 'SIN', '02:25');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B033','DEL', 'CGK', '08:20');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B034','DEL', 'DPS', '08:20');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B035','DEL', 'BIA', '03:25');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B036','DEL', 'BKK', '03:45');
```

```
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B037','DEL', 'DMK', '03:45');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B038','DEL', 'SIN', '05:30');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B039','BOM', 'CGK', '06:15');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B040','BOM', 'DPS', '09:00');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B041','BOM', 'BIA', '02:25');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B042','BOM', 'BKK', '04:05');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B043','BOM', 'DMK', '04:00');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B044','BOM', 'SIN', '05:14');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B045','MAA', 'CGK', '05:00');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B046','MAA', 'DPS', '06:30');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B047','MAA', 'BIA', '01:15');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B048','MAA', 'BKK', '03:20');
```

```
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B049','MAA', 'DMK', '03:30');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B050','MAA', 'SIN', '04:10');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B051','BKK', 'CGK', '03:20');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B052','BKK', 'DPS', '04:10');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B053','BKK', 'BIA', '03:25');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B054','BKK', 'DEL', '04:10');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B055','BKK', 'BOM', '04:50');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B056','BKK', 'MAA', '03:20');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B057','BKK', 'SIN', '02:15');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B058','DMK', 'CGK', '03:20');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B059','DMK', 'DPS', '04:10');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B060','DMK', 'BIA', '03:20');
```

```
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B061','DMK', 'DEL', '04:00');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B062','DMK', 'BOM', '04:00');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B063','DMK', 'MAA', '03:25');
INSERT INTO Route(route_id,origin, destination, duration) VALUES
('B064','DMK', 'SIN', '02:20');

----------INSERTING ROUTES----------

CALL insert_route_price('B001',800,500,145);
CALL insert_route_price('B002',700,600,161);
CALL insert_route_price('B003',750,670,166);
CALL insert_route_price('B004',610,510,147);
CALL insert_route_price('B005',500,430,135);
CALL insert_route_price('B006',680,590,192);
CALL insert_route_price('B007',610,510,144);
CALL insert_route_price('B008',548,400,116);
CALL insert_route_price('B009',500,350,105);
CALL insert_route_price('B010',450,330,97);
CALL insert_route_price('B011',400,300,90);
CALL insert_route_price('B012',350,245,63);
CALL insert_route_price('B013',330,220,57);
CALL insert_route_price('B014',840,670,203);
```

```
CALL insert_route_price('B015',780,625,195);
CALL insert_route_price('B016',680,500,165);
CALL insert_route_price('B017',310,200,49);
CALL insert_route_price('B018',500,350,92);
CALL insert_route_price('B019',580,450,153);
CALL insert_route_price('B020',980,720,297);
CALL insert_route_price('B021',1100,800,330);
CALL insert_route_price('B022',600,430,134);
CALL insert_route_price('B023',510,310,103);
CALL insert_route_price('B024',520,315,106);
CALL insert_route_price('B025',280,170,30);
CALL insert_route_price('B026',580,360,166);
CALL insert_route_price('B027',820,580,236);
CALL insert_route_price('B028',1100,810,330);
CALL insert_route_price('B029',1050,790,320);
CALL insert_route_price('B030',650,480,149);
CALL insert_route_price('B031',650,480,149);
CALL insert_route_price('B032',410,230,59);
CALL insert_route_price('B033',1050,820,318);
CALL insert_route_price('B034',780,520,210);
CALL insert_route_price('B035',620,410,180);
CALL insert_route_price('B036',420,280,87);
CALL insert_route_price('B037',430,290,90);
CALL insert_route_price('B038',512,370,128);
CALL insert_route_price('B039',730,520,200);
```

```
CALL insert_route_price('B040',880,620,300);
CALL insert_route_price('B041',730,520,200);
CALL insert_route_price('B042',480,300,85);
CALL insert_route_price('B043',500,310,90);
CALL insert_route_price('B044',680,420,150);
CALL insert_route_price('B045',580,320,121);
CALL insert_route_price('B046',590,350,140);
CALL insert_route_price('B047',480,280,110);
CALL insert_route_price('B048',480,320,80);
CALL insert_route_price('B049',470,310,130);
CALL insert_route_price('B050',480,320,80);
CALL insert_route_price('B051',580,300,116);
CALL insert_route_price('B052',520,340,148);
CALL insert_route_price('B053',510,320,144);
CALL insert_route_price('B054',650,420,238);
CALL insert_route_price('B055',420,290,105);
CALL insert_route_price('B056',610,310,86);
CALL insert_route_price('B057',380,200,46);
CALL insert_route_price('B058',430,280,100);
CALL insert_route_price('B059',620,470,226);
CALL insert_route_price('B060',530,340,144);
CALL insert_route_price('B061',640,470,180);
CALL insert_route_price('B062',660,490,200);
CALL insert_route_price('B063',560,430,170);
CALL insert_route_price('B064',390,220,83);
```

----------INSERTING FLIGHT SCHEDULES----------

```
CALL scheduleFlights('B001',1,'2024-03-03','07:30:00');
CALL scheduleFlights('B053',1,'2024-03-03','21:00:00');
CALL scheduleFlights('B001',1,'2024-03-04','07:00:00');
CALL scheduleFlights('B057',1,'2024-03-04','20:00:00');
CALL scheduleFlights('B010',1,'2024-03-05','09:00:00');
CALL scheduleFlights('B001',1,'2024-03-06','07:00:00');
CALL scheduleFlights('B057',1,'2024-03-06','20:00:00');
CALL scheduleFlights('B010',1,'2024-03-07','09:00:00');
CALL scheduleFlights('B001',1,'2024-03-08','07:00:00');
CALL scheduleFlights('B057',1,'2024-03-08','20:00:00');
CALL scheduleFlights('B010',1,'2024-03-09','09:00:00');

CALL scheduleFlights('B034',2,'2024-03-03','07:15:00');
CALL scheduleFlights('B027',2,'2024-03-03','19:00:00');
CALL scheduleFlights('B034',2,'2024-03-04','09:00:00');
CALL scheduleFlights('B031',2,'2024-03-05','03:00:00');
CALL scheduleFlights('B061',2,'2024-03-06','16:30:00');
CALL scheduleFlights('B034',2,'2024-03-07','09:00:00');
CALL scheduleFlights('B031',2,'2024-03-08','03:00:00');
CALL scheduleFlights('B061',2,'2024-03-09','16:30:00');
CALL scheduleFlights('B034',2,'2024-03-10','09:00:00');
CALL scheduleFlights('B031',2,'2024-03-11','03:00:00');
CALL scheduleFlights('B061',2,'2024-03-12','16:30:00');
```

```
CALL scheduleFlights('B005',3,'2024-03-03','07:15:00');
CALL scheduleFlights('B041',3,'2024-03-03','18:00:00');
CALL scheduleFlights('B005',3,'2024-03-04','15:30:00');
CALL scheduleFlights('B041',3,'2024-03-05','01:30:00');
CALL scheduleFlights('B005',3,'2024-03-06','15:30:00');
CALL scheduleFlights('B041',3,'2024-03-07','01:30:00');
CALL scheduleFlights('B005',3,'2024-03-08','15:30:00');
CALL scheduleFlights('B041',3,'2024-03-09','01:30:00');
CALL scheduleFlights('B005',3,'2024-03-10','15:30:00');
CALL scheduleFlights('B041',3,'2024-03-11','01:30:00');

CALL scheduleFlights('B017',4,'2024-03-03','07:10:00');
CALL scheduleFlights('B057',4,'2024-03-03','15:00:00');
CALL scheduleFlights('B017',4,'2024-03-04','03:30:00');
CALL scheduleFlights('B057',4,'2024-03-04','15:00:00');
CALL scheduleFlights('B017',4,'2024-03-05','03:30:00');
CALL scheduleFlights('B057',4,'2024-03-05','15:00:00');
CALL scheduleFlights('B017',4,'2024-03-06','03:30:00');
CALL scheduleFlights('B057',4,'2024-03-06','15:00:00');
CALL scheduleFlights('B017',4,'2024-03-07','03:30:00');
CALL scheduleFlights('B057',4,'2024-03-07','15:00:00');
CALL scheduleFlights('B017',4,'2024-03-08','03:30:00');
CALL scheduleFlights('B057',4,'2024-03-08','15:00:00');
CALL scheduleFlights('B017',4,'2024-03-09','03:30:00');
CALL scheduleFlights('B057',4,'2024-03-09','15:00:00');
```

```
CALL scheduleFlights('B017',4,'2024-03-10','03:30:00');
CALL scheduleFlights('B057',4,'2024-03-10','15:00:00');
CALL scheduleFlights('B017',4,'2024-03-11','03:30:00');
CALL scheduleFlights('B057',4,'2024-03-11','15:00:00');

CALL scheduleFlights('B011',5,'2024-03-03','07:15:00');
CALL scheduleFlights('B009',5,'2024-03-03','20:00:00');
CALL scheduleFlights('B011',5,'2024-03-04','07:30:00');
CALL scheduleFlights('B009',5,'2024-03-04','20:00:00');
CALL scheduleFlights('B011',5,'2024-03-08','09:30:00');
CALL scheduleFlights('B009',5,'2024-03-08','21:00:00');
CALL scheduleFlights('B011',5,'2024-03-12','07:30:00');
CALL scheduleFlights('B009',5,'2024-03-12','20:00:00');

CALL scheduleFlights('B047',6,'2024-03-03','08:00:00');
CALL scheduleFlights('B006',6,'2024-03-03','20:00:00');
CALL scheduleFlights('B047',6,'2024-03-04','07:30:00');
CALL scheduleFlights('B007',6,'2024-03-04','20:00:00');
CALL scheduleFlights('B063',6,'2024-03-05','09:30:00');
CALL scheduleFlights('B050',6,'2024-03-05','21:00:00');
CALL scheduleFlights('B017',6,'2024-03-06','10:00:00');
CALL scheduleFlights('B056',6,'2024-03-06','21:00:00');
CALL scheduleFlights('B047',6,'2024-03-07','10:30:00');
CALL scheduleFlights('B007',6,'2024-03-07','20:00:00');
CALL scheduleFlights('B063',6,'2024-03-08','09:30:00');
```

```
CALL scheduleFlights('B050',6,'2024-03-08','21:00:00');
CALL scheduleFlights('B017',6,'2024-03-09','07:00:00');
CALL scheduleFlights('B056',6,'2024-03-09','21:00:00');
CALL scheduleFlights('B040',7,'2024-03-03','08:00:00');
CALL scheduleFlights('B028',7,'2024-03-03','20:00:00');
CALL scheduleFlights('B040',7,'2024-03-04','07:30:00');
CALL scheduleFlights('B031',7,'2024-03-04','20:00:00');
CALL scheduleFlights('B064',7,'2024-03-05','09:30:00');
CALL scheduleFlights('B015',7,'2024-03-05','21:00:00');
CALL scheduleFlights('B040',7,'2024-03-06','07:30:00');
CALL scheduleFlights('B031',7,'2024-03-06','20:00:00');
CALL scheduleFlights('B064',7,'2024-03-07','09:30:00');
CALL scheduleFlights('B015',7,'2024-03-07','21:00:00');
CALL scheduleFlights('B040',7,'2024-03-08','07:30:00');
CALL scheduleFlights('B031',7,'2024-03-08','20:00:00');
CALL scheduleFlights('B064',7,'2024-03-09','09:30:00');
CALL scheduleFlights('B015',7,'2024-03-10','21:00:00');
CALL scheduleFlights('B002',8,'2024-03-03','08:00:00');
CALL scheduleFlights('B019',8,'2024-03-03','23:00:00');
CALL scheduleFlights('B002',8,'2024-03-04','22:30:00');
CALL scheduleFlights('B019',8,'2024-03-05','20:00:00');
CALL scheduleFlights('B002',8,'2024-03-06','22:30:00');
CALL scheduleFlights('B019',8,'2024-03-07','20:00:00');
CALL scheduleFlights('B002',8,'2024-03-08','22:30:00');
CALL scheduleFlights('B019',8,'2024-03-09','20:00:00');
CALL scheduleFlights('B002',8,'2024-03-10','22:30:00');
CALL scheduleFlights('B019',8,'2024-03-11','20:00:00');
```