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/* ASSIGNMENT NAME: Biggin Hill Airpot Information System
Module Name: Databse for Management Information Systems
Module Leader: Prof. Tom Butler
Module Code: IS6126
Group Members Name: Suyash Sharma, Ruoyo Li and Jiangheng Bao
Student Number: 123101711, 123100358, 123100407.
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CREATE DATABASE MYSQL_AIRMAN;
USE MYSQL_AIRMAN;
SET SQL_SAFE_UPDATES = 0;

CREATE TABLE Customer (
Customer_ID INT PRIMARY KEY NOT NULL,
Customer_Name VARCHAR (30),
Customer_Address VARCHAR (30),
Customer_Phone_Number VARCHAR (50),
Customer_Email VARCHAR (40),
Customer_Social_Insurance_Number INT,
Customer_Type VARCHAR (40) -- Pilot, Corporation or Regular
);

CREATE TABLE Corporation (
Corporation_ID INT PRIMARY KEY NOT NULL,
NAME VARCHAR (60),
Customer_ID INT,
FOREIGN KEY (Customer_ID) REFERENCES Customer (Customer_ID)
);

CREATE TABLE Aircraft_Model (
Model_Number INT PRIMARY KEY AUTO_INCREMENT,
Passenger_capacity VARCHAR (30),
Cargo_Capacity VARCHAR (30)
);

CREATE TABLE Service_Record (
Service_Record_ID INT PRIMARY KEY NOT NULL
);

CREATE TABLE Pilot (
Pilot_ID INT PRIMARY KEY NOT NULL,
License_Number INT,
License_Type_Restriction VARCHAR (50),
Operational_Status VARCHAR (30),
Customer_ID INT,
FOREIGN KEY (Customer_ID) REFERENCES Customer (Customer_ID)
);

CREATE TABLE Aircraft (
Aircraft_Registration_Number INT PRIMARY KEY NOT NULL,
Aircraft_Type VARCHAR (60),
Purchase_History VARCHAR (200),
Aircraft_Size VARCHAR (20),
Model_Number INT,
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FOREIGN KEY (Model_Number) REFERENCES Aircraft_Model (Model_Number)
);

CREATE TABLE Service_History (
Service_History_ID INT PRIMARY KEY NOT NULL,
Service_Type VARCHAR (30),
Aircraft_Registration_Number INT,
Service_Record_ID INT,
FOREIGN KEY (Aircraft_Registration_Number) REFERENCES Aircraft
(Aircraft_Registration_Number),
FOREIGN KEY (Service_Record_ID) REFERENCES Service_Record
(Service_Record_ID)
);

CREATE TABLE Aircraft_Accessories (
Aircraft_Accessories_ID INT PRIMARY KEY NOT NULL,
Accessory_Name VARCHAR (60),
Aircraft_Type VARCHAR (60),
Model_Number INT,
FOREIGN KEY (Model_Number) REFERENCES Aircraft_Model (Model_Number)
);

CREATE TABLE Hanger_Slot (
Hanger_Slot_ID INT PRIMARY KEY NOT NULL,
Slot_location VARCHAR (20),
Slot_size VARCHAR (10),
Slot_status VARCHAR (10),
Slot_price_per_day DECIMAL (10,2),
Aircraft_Registration_Number INT,
FOREIGN KEY (Aircraft_Registration_Number) REFERENCES Aircraft
(Aircraft_Registration_Number)
);

CREATE TABLE Ground_Slot (
Ground_Slot_ID INT PRIMARY KEY NOT NULL,
Slot_location VARCHAR (20),
Slot_size VARCHAR (10),
Slot_status VARCHAR (10),
Slot_price_per_day DECIMAL (10,2),
Aircraft_Registration_Number INT,
FOREIGN KEY (Aircraft_Registration_Number) REFERENCES Aircraft
(Aircraft_Registration_Number)
);

CREATE TABLE Maintenance_History (
Maintenance_History_ID INT PRIMARY KEY NOT NULL,
Aircraft_Registration_Number INT,
FOREIGN KEY (Aircraft_Registration_Number) REFERENCES Aircraft
(Aircraft_Registration_Number)
);

CREATE TABLE Storage_Record (
Storage_Record_ID INT PRIMARY KEY NOT NULL,
Storage_start_datetime DATETIME,
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Storage_finish_datetime DATETIME,
Storage_Cost DECIMAL (10,2),
Service_Record_ID INT,
Aircraft_Registration_Number INT,
Hanger_Slot_ID INT,
FOREIGN KEY (Service_Record_ID) REFERENCES Service_Record
(Service_Record_ID),
FOREIGN KEY (Aircraft_Registration_Number) REFERENCES Aircraft
(Aircraft_Registration_Number),
FOREIGN KEY (Hanger_Slot_ID) REFERENCES Hanger_Slot (Hanger_Slot_ID)
);

CREATE TABLE Parking_Record (
Parking_Record_ID INT PRIMARY KEY NOT NULL,
Parking_start_datetime DATETIME,
Parking_finish_datetime DATETIME,
Parking_Cost DECIMAL (10,2),
Service_Record_ID INT,
Aircraft_Registration_Number INT,
Ground_Slot_ID INT,
FOREIGN KEY (Service_Record_ID) REFERENCES Service_Record
(Service_Record_ID),
FOREIGN KEY (Aircraft_Registration_Number) REFERENCES Aircraft
(Aircraft_Registration_Number),
FOREIGN KEY (Ground_Slot_ID) REFERENCES Ground_Slot (Ground_Slot_ID)
);

CREATE TABLE Flight_Record (
Flight_ID INT PRIMARY KEY NOT NULL,
Flight_Date_And_Time DATETIME,
Flight_Record_Type VARCHAR (60),
Landing_Fee DECIMAL (10,2),
Parking_Record_ID INT,
Storage_Record_ID INT,
Pilot_ID INT,
FOREIGN KEY (Parking_Record_ID) REFERENCES Parking_Record
(Parking_Record_ID),
FOREIGN KEY (Storage_Record_ID) REFERENCES Storage_Record
(Storage_Record_ID),
FOREIGN KEY (Pilot_ID) REFERENCES Pilot (Pilot_ID)
);

CREATE TABLE Airport_Employee (
Employee_ID INT PRIMARY KEY NOT NULL,
Employee_Name VARCHAR (30),
Employee_Address VARCHAR (60),
Employee_Phone_Number INT,
Employee_Email VARCHAR (40),
Employee_SIN INT,
Employee_Salary DECIMAL (10,2),
Shift_worked VARCHAR (30),
Maintenance_skillsets VARCHAR (60),
Aircraft_Types VARCHAR (60)
);
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CREATE TABLE Manager (
Manager_ID INT PRIMARY KEY NOT NULL,
Employee_ID INT,
FOREIGN KEY (Employee_ID) REFERENCES Airport_Employee (Employee_ID)
);

CREATE TABLE Supervisor (
Supervisor_ID INT PRIMARY KEY NOT NULL,
Employee_ID INT,
Manager_ID INT,
FOREIGN KEY (Employee_ID) REFERENCES Airport_Employee (Employee_ID),
FOREIGN KEY (Manager_ID) REFERENCES Manager (Manager_ID)
);

CREATE TABLE Employee_Team (
Team_ID INT PRIMARY KEY NOT NULL,
Team_Name VARCHAR (30),
Team_Type VARCHAR (30),
Maintenance_Type_of_Aircraft_allowed VARCHAR (40),
Supervisor_ID INT,
FOREIGN KEY (Supervisor_ID) REFERENCES Supervisor (Supervisor_ID)
);

CREATE TABLE Contract (
Contract_ID INT PRIMARY KEY NOT NULL,
Contract_start_date DATE,
Contract_end_date DATE,
Contract_Terms VARCHAR (40),
Contract_Type VARCHAR (40),
Customer_ID INT,
Aircraft_Registration_Number INT,
Team_ID INT,
Ground_Slot_ID INT,
Hanger_Slot_ID INT,
FOREIGN KEY (Customer_ID) REFERENCES Customer (Customer_ID),
FOREIGN KEY (Aircraft_Registration_Number) REFERENCES Aircraft
(Aircraft_Registration_Number),
FOREIGN KEY (Team_ID) REFERENCES Employee_Team (Team_ID),
FOREIGN KEY (Ground_Slot_ID) REFERENCES Ground_Slot (Ground_Slot_ID),
FOREIGN KEY (Hanger_Slot_ID) REFERENCES Hanger_Slot (Hanger_Slot_ID)
);

CREATE TABLE Invoice (
Invoice_ID INT PRIMARY KEY NOT NULL,
Invoice_Date_Issued DATE,
Invoice_Amount DECIMAL (10,2),
Invoice_Description VARCHAR (40),
Invoice_Status VARCHAR (10),
Customer_ID INT,
Contract_ID INT,
FOREIGN KEY (Customer_ID) REFERENCES Customer (Customer_ID),
FOREIGN KEY (Contract_ID) REFERENCES Contract (Contract_ID)
);
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CREATE TABLE Reservation (
Reservation_ID INT PRIMARY KEY NOT NULL,
Reservation_Basis VARCHAR (50),
Reservation_Date DATE,
Reservation_Time TIME,
Reservation_Status VARCHAR (10),
Customer_ID INT,
Team_ID INT,
Ground_Slot_ID INT,
Hanger_Slot_ID INT,
Service_Record_ID INT,
Aircraft_Registration_Number INT,
FOREIGN KEY (Customer_ID) REFERENCES Customer (Customer_ID),
FOREIGN KEY (Team_ID) REFERENCES Employee_Team (Team_ID),
FOREIGN KEY (Ground_Slot_ID) REFERENCES Ground_Slot (Ground_Slot_ID),
FOREIGN KEY (Hanger_Slot_ID) REFERENCES Hanger_Slot (Hanger_Slot_ID),
FOREIGN KEY (Service_Record_ID) REFERENCES Service_Record
(Service_Record_ID),
FOREIGN KEY (Aircraft_Registration_Number) REFERENCES Aircraft
(Aircraft_Registration_Number)
);

CREATE TABLE Cleaning_Record (
Cleaning_Record_ID INT PRIMARY KEY NOT NULL,
Cleaning_date DATE,
Cleaning_time TIME,
Working_hours INT,
Cleaning_amount DECIMAL (10,2),
Cleaning_cost DECIMAL (10,2),
Service_Record_ID INT,
Team_ID INT,
Aircraft_Registration_Number INT,
Reservation_ID INT,
Employee_ID INT,
FOREIGN KEY (Service_Record_ID) REFERENCES Service_Record
(Service_Record_ID),
FOREIGN KEY (Team_ID) REFERENCES Employee_Team (Team_ID),
FOREIGN KEY (Aircraft_Registration_Number) REFERENCES Aircraft
(Aircraft_Registration_Number),
FOREIGN KEY (Reservation_ID) REFERENCES Reservation (Reservation_ID),
FOREIGN KEY (Employee_ID) REFERENCES Airport_Employee (Employee_ID)
);

CREATE TABLE Fuelling_Record (
Fuelling_Record_ID INT PRIMARY KEY NOT NULL,
Fuelling_Type VARCHAR (30),
Fuelling_Price DECIMAL (10,2),
Fuelling_date DATE,
Fuelling_time TIME,
Fuelling_amount VARCHAR (50),
Fuelling_cost DECIMAL (10,2),
Service_Record_ID INT,
Team_ID INT,
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Aircraft_Registration_Number INT,
Reservation_ID INT,
Employee_ID INT,
FOREIGN KEY (Service_Record_ID) REFERENCES Service_Record
(Service_Record_ID),
FOREIGN KEY (Team_ID) REFERENCES Employee_Team (Team_ID),
FOREIGN KEY (Aircraft_Registration_Number) REFERENCES Aircraft
(Aircraft_Registration_Number),
FOREIGN KEY (Reservation_ID) REFERENCES Reservation (Reservation_ID),
FOREIGN KEY (Employee_ID) REFERENCES Airport_Employee (Employee_ID)
);

CREATE TABLE Maintenance_Record (
Maintenance_Record_ID INT PRIMARY KEY NOT NULL,
Maintnenace_Type VARCHAR (40),
Maintenance_Date DATE,
Maintenance_Time TIME,
Maintenance_Duration VARCHAR (40),
Specific_Issue VARCHAR (100),
Maintenance_Cost DECIMAL (10,2),
Service_Record_ID INT,
Team_ID INT,
Aircraft_Registration_Number INT,
Maintenance_History_ID INT,
Aircraft_Accessories_ID INT,
Employee_ID INT,
FOREIGN KEY (Service_Record_ID) REFERENCES Service_Record
(Service_Record_ID),
FOREIGN KEY (Team_ID) REFERENCES Employee_Team (Team_ID),
FOREIGN KEY (Aircraft_Registration_Number) REFERENCES Aircraft
(Aircraft_Registration_Number),
FOREIGN KEY (Maintenance_History_ID) REFERENCES Maintenance_History
(Maintenance_History_ID),
FOREIGN KEY (Aircraft_Accessories_ID) REFERENCES Aircraft_Accessories
(Aircraft_Accessories_ID),
FOREIGN KEY (Employee_ID) REFERENCES Airport_Employee (Employee_ID)
);

/*-- ADDING FORIEGN KEYS:*/

SELECT * FROM Aircraft;
ALTER TABLE Airport_Employee ADD FOREIGN KEY (Team_ID) REFERENCES
Employee_Team (Team_ID);
ALTER TABLE Airport_Employee ADD column Team_ID INT;
ALTER TABLE Customer ADD column Aircraft_Registration_Number INT;
ALTER TABLE Aircraft ADD column Contract_ID INT;
ALTER TABLE Aircraft ADD column Maintenance_History_ID INT;
ALTER TABLE Aircraft ADD column Fuelling_Record_ID INT;
ALTER TABLE Aircraft ADD column Cleaning_Record_ID INT;
ALTER TABLE Aircraft ADD column Ground_Slot_ID INT;
ALTER TABLE Corporation DROP COLUMN Aircraft_Registration_Number;
```