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CS 122A HOMEWORK #2

1. <u>Employee</u>
   CREATE TABLE Employee (
     eid INTEGER,
     job_title VARCHAR(20),
     street VARCHAR(20),
     city VARCHAR(20),
     state VARCHAR(2),
     zip_code INTEGER,
     phone_number INTEGER,
     birthdate DATE,
     ssn INTEGER,
     PRIMARY KEY (eid)
   );

2. <u>Maintenance Engineer</u>
   CREATE TABLE Maintenance_Engineer (
     eid INTEGER NOT NULL,
     skill VARCHAR(20),
     FOREIGN KEY (eid) REFERENCES Employee
       ON DELETE CASCADE
   );

3. <u>Pilot</u>
   CREATE TABLE Pilot (
     eid INTEGER NOT NULL,
     year_started INTEGER,
     FOREIGN KEY (eid) REFERENCES Employee
       ON DELETE CASCADE
   );

4. <u>Flight Attendant</u>
   CREATE TABLE Flight_Attendant (
     eid INTEGER NOT NULL,
     service_year INTEGER,
     FOREIGN KEY(eid) REFERENCES Employee
       ON DELETE CASCADE
   );

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5. Operation Staff

```
CREATE TABLE Operation_Staff (
        eid INTEGER NOT NULL,
        department VARCHAR(20),
        FOREIGN KEY (eid) REFERENCES Employee
                ON DELETE CASCADE
);
```

6. Lounge

```
CREATE TABLE Lounge (
        lid INTEGER,
        location VARCHAR(20),
        iata_code VARCHAR(4) NOT NULL,
        PRIMARY KEY (lid),
        FOREIGN KEY (iata_code) REFERENCES Airport
                ON DELETE CASCADE
);
```

7. Customer

```
CREATE TABLE Customer (
        cid VARCHAR(20),
        ssn INTEGER,
        gender VARCHAR(1),
        street VARCHAR(20),
        city VARCHAR(20),
        state VARCHAR(2),
        zip_code INTEGER,
        email VARCHAR(20),
        PRIMARY KEY (cid)
);
```

8. Credit Card

```
CREATE TABLE Credit_Card (
        cid INTEGER NOT NULL,
        credit_num INTEGER,
        exp_date VARCHAR(7),
        PRIMARY KEY (cid),
        FOREIGN KEY (cid) REFERENCES Customer
                ON DELETE CASCADE
);
```

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9. Airport
   ```
   CREATE TABLE Airport (
          iata_code VARCHAR(4),
          name VARCHAR(20),
          city VARCHAR(20),
          state VARCHAR(2),
          PRIMARY KEY (iata_code)
   );
   ```

10. Dish
   ```
   CREATE TABLE Dish (
          dname VARCHAR(20),
          lid INTEGER NOT NULL,
          price DECIMAL(5, 2),
          PRIMARY KEY (dname),
          FOREIGN KEY (lid) REFERENCES Lounge
                 ON DELETE CASCADE
   );
   ```

11. DishOrder
   ```
   CREATE TABLE Dish_Order (
          oid INTEGER,
          cid VARCHAR(20) NOT NULL,
          order_datetime DATETIME,
          total_amt DECIMAL(5, 2),
          PRIMARY KEY (oid),
          FOREIGN KEY (cid) REFERENCES Customer
                 ON DELETE CASCADE
   );
   ```

12. Airplane
   ```
   CREATE TABLE Airplane (
          reg_number VARCHAR(10),
          model_number VARCHAR(10),
          purchase_year INTEGER,
          manufacture_year INTEGER,
          capacity INTEGER,
          PRIMARY KEY (reg_number)
   );
   ```

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13. Flight

```
CREATE TABLE Flight (
        flight_no VARCHAR(5),
        reg_number VARCHAR(10),
        iata_code VARCHAR(4) NOT NULL,
        projected_depart_datetime DATETIME,
        projected_arrive_datetime DATETIME,
        actual_depart_datetime DATETIME,
        actual_arrival_datetime DATETIME,
        PRIMARY KEY (flight_no, projected_depart_time),
        FOREIGN KEY (iata_code) REFERENCES Airport
                ON DELETE CASCADE,
        FOREIGN KEY (reg_number) REFERENCES Airplane
                ON DELETE SET NULL
);
```

14. DishOrder [contains] Dish

```
CREATE TABLE Dish_Order_Contains (
        dname VARCHAR(20),
        oid INTEGER,
        quantity INTEGER,
        PRIMARY KEY (dname, oid),
        FOREIGN KEY (dname) REFERENCES Dish
                ON DELETE SET NULL,
        FOREIGN KEY (oid) REFERENCES Dish_Order
                ON DELETE SET NULL
);
```

15. Customer [reserves] Flight

```
CREATE TABLE Reserve_Flight (
        cid INTEGER,
        flight_no VARCHAR(5),
        projected_depart_datetime DATETIME,
        quantity INTEGER,
        purchase_price DECIMAL(6, 2),
        purchased_datetime DATETIME,
        PRIMARY KEY (cid, flight_no, projected_depart_datetime),
        FOREIGN KEY (cid) REFERENCES Customer
                ON DELETE SET NULL,
        FOREIGN KEY (flight_no, projected_depart_datetime)
                REFERENCES Flight ON DELETE SET NULL);
```

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16. Flight Attendant [participates (in)] Flight

```
CREATE TABLE Participates_In (
        eid INTEGER,
        flight_no VARCHAR(5),
        projected_depart_datetime DATETIME,
        PRIMARY KEY (eid, flight_no, projected_depart_datetime),
        FOREIGN KEY (eid) REFERENCES Flight_Attendant
                ON DELETE SET NULL,
        FOREIGN KEY (flight_no, projected_depart_datetime)
                REFERENCES Flight ON DELETE SET NULL
);
```

17. Pilot [operates] Flight

```
CREATE TABLE Flight_Operator (
        eid INTEGER,
        flight_no VARCHAR(5),
        PRIMARY KEY (eid, flight_no),
        FOREIGN KEY (eid) REFERENCES Pilot ON DELETE SET NULL,
        FOREIGN KEY (flight_no) REFERENCES Flight
                ON DELETE SET NULL
);
```

18. Maintenance Engineer [maintains] Airplane

```
CREATE TABLE Maintains_Airplane (
        eid INTEGER,
        reg_number VARCHAR(10),
        PRIMARY KEY (eid, reg_number),
        FOREIGN KEY (eid) REFERENCES Maintenance_Engineer
                ON DELETE SET NULL,
        FOREIGN KEY (reg_number) REFERENCES Airplane
                ON DELETE SET NULL
);
```