--DROPPING ALL TABLES IF NECESSARY

DROP TABLE AIRPLANE;

DROP TABLE AIRPLANE\_TYPE;

DROP TABLE METADATA\_AIRPLANE;

DROP TABLE STATISTICS\_AIRPLANE;

--1. Create the AIRPLANE\_TYPE relation

CREATE TABLE AIRPLANE\_TYPE(

Type\_Name VARCHAR2(30) PRIMARY KEY,

Company VARCHAR2(30) NOT NULL,

Max\_Seats INT NOT NULL,

CONSTRAINT CHECK\_\_MAX\_SEATS\_\_AT CHECK (Max\_Seats > 0 AND Max\_Seats < 854),

CONSTRAINT CHECK\_\_Type\_Name\_\_AT CHECK (Type\_Name like 'Boeing 737'

OR Type\_Name like 'Boeing 747'

OR Type\_Name like 'Boeing 777'

OR Type\_Name like 'Boeing 787 Dreamliner'

OR Type\_Name like 'Airbus A320'

OR Type\_Name like 'Airbus A380'

OR Type\_Name like 'Embraer E175'

OR Type\_Name like 'Embraer E190'

OR Type\_Name like 'Bombardier CRJ900'

OR Type\_Name like 'Cessna 172'

OR Type\_Name like 'Gulfstream G650'

OR Type\_Name like 'Bombardier CRJ700'

OR Type\_Name like 'McDonnell Douglas MD-80'

OR Type\_Name like 'Beechcraft King Air'

OR Type\_Name like 'Lockheed C-130 Hercules')

);

--2. Create the AIRPLANE relation

CREATE TABLE AIRPLANE(

Airplane\_ID VARCHAR2(7) NOT NULL,

Total\_Number\_of\_Seats NUMBER(3) NOT NULL,

Type\_Name VARCHAR2(23) NOT NULL,

CONSTRAINT PK\_\_AIRPLANE\_\_A PRIMARY KEY (Airplane\_ID),

CONSTRAINT FK\_\_Type\_Name\_\_A FOREIGN KEY (Type\_Name) REFERENCES AIRPLANE\_TYPE(Type\_Name),

CONSTRAINT CHK\_\_TOTAL\_NO\_OF\_SEATS\_\_A CHECK (Total\_Number\_of\_SEATS > 0 AND Total\_Number\_of\_SEATS < 854)

);

--3. Populating the AIRPLANE\_TYPE relation

INSERT INTO AIRPLANE\_TYPE(Type\_Name, Company, Max\_Seats)

VALUES ('Boeing 737', 'Boeing', 215);

INSERT INTO AIRPLANE\_TYPE(Type\_Name, Company, Max\_Seats)

VALUES ('Airbus A320', 'Airbus', 220);

INSERT INTO AIRPLANE\_TYPE(Type\_Name, Company, Max\_Seats)

VALUES ('Embraer E175', 'Embraer', 88);

INSERT INTO AIRPLANE\_TYPE(Type\_Name, Company, Max\_Seats)

VALUES ('Bombardier CRJ900', 'Bombardier', 76);

INSERT INTO AIRPLANE\_TYPE(Type\_Name, Company, Max\_Seats)

VALUES ('Bombardier CRJ700', 'Boeing', 550);

--4. Populating the AIRPLANE relation

INSERT INTO AIRPLANE(Airplane\_ID, Total\_Number\_of\_Seats, Type\_Name)

VALUES ('JFK-101', 215, 'Boeing 737');

INSERT INTO AIRPLANE(Airplane\_ID, Total\_Number\_of\_Seats, Type\_Name)

VALUES ('JFK-102', 215, 'Boeing 737');

INSERT INTO AIRPLANE(Airplane\_ID, Total\_Number\_of\_Seats, Type\_Name)

VALUES ('LAX-101', 220, 'Airbus A320');

INSERT INTO AIRPLANE(Airplane\_ID, Total\_Number\_of\_Seats, Type\_Name)

VALUES ('ORD-101', 88, 'Embraer E175');

INSERT INTO AIRPLANE(Airplane\_ID, Total\_Number\_of\_Seats, Type\_Name)

VALUES ('DFW-101', 76, 'Bombardier CRJ900');

INSERT INTO AIRPLANE(Airplane\_ID, Total\_Number\_of\_Seats, Type\_Name)

VALUES ('ATL-101', 550, 'Bombardier CRJ700');

-- Metadata for Tables AIRPLANE\_TYPE and AIRPLANE

-- Description: This table stores information about different airplane types and specific airplanes.

-- Table structure for metadata

CREATE TABLE METADATA\_AIRPLANE (

Table\_Name VARCHAR2(50),

Attribute VARCHAR2(50),

Description VARCHAR2(200),

Selectivity NUMBER

);

-- Insert metadata information for AIRPLANE\_TYPE attributes

INSERT INTO METADATA\_AIRPLANE (Table\_Name, Attribute, Description, Selectivity)

VALUES ('AIRPLANE\_TYPE', 'Type\_Name', 'The name of the airplane type.', 0.2);

INSERT INTO METADATA\_AIRPLANE (Table\_Name, Attribute, Description, Selectivity)

VALUES ('AIRPLANE\_TYPE', 'Company', 'The company that manufactures the airplane type.', 0.1);

INSERT INTO METADATA\_AIRPLANE (Table\_Name, Attribute, Description, Selectivity)

VALUES ('AIRPLANE\_TYPE', 'Max\_Seats', 'The maximum number of seats in this airplane type.', 0.8);

-- Insert metadata information for AIRPLANE attributes

INSERT INTO METADATA\_AIRPLANE (Table\_Name, Attribute, Description, Selectivity)

VALUES ('AIRPLANE', 'Airplane\_ID', 'A unique identifier for each airplane.', 1.0);

INSERT INTO METADATA\_AIRPLANE (Table\_Name, Attribute, Description, Selectivity)

VALUES ('AIRPLANE', 'Total\_Number\_of\_Seats', 'The total number of seats on the airplane.', 0.6);

INSERT INTO METADATA\_AIRPLANE (Table\_Name, Attribute, Description, Selectivity)

VALUES ('AIRPLANE', 'Type\_Name', 'The type of airplane, which is a foreign key referencing the AIRPLANE\_TYPE table.', 0.2);

-- Statistics for Tables AIRPLANE\_TYPE and AIRPLANE

-- Description: This table stores statistical information about the tables.

-- Table structure for statistics

CREATE TABLE STATISTICS\_AIRPLANE (

Table\_Name VARCHAR2(50),

Attribute VARCHAR2(50),

Statistic\_Type VARCHAR2(50),

Statistic\_Value VARCHAR2(200)

);

-- Insert statistics information for AIRPLANE\_TYPE

INSERT INTO STATISTICS\_AIRPLANE (Table\_Name, Attribute, Statistic\_Type, Statistic\_Value)

VALUES ('AIRPLANE\_TYPE', 'Type\_Name', 'Number of Rows', '5');

INSERT INTO STATISTICS\_AIRPLANE (Table\_Name, Attribute, Statistic\_Type, Statistic\_Value)

VALUES ('AIRPLANE\_TYPE', 'Type\_Name', 'Average Max\_Seats', '229.8');

INSERT INTO STATISTICS\_AIRPLANE (Table\_Name, Attribute, Statistic\_Type, Statistic\_Value)

VALUES ('AIRPLANE\_TYPE', 'Type\_Name', 'Min Max\_Seats', '76');

INSERT INTO STATISTICS\_AIRPLANE (Table\_Name, Attribute, Statistic\_Type, Statistic\_Value)

VALUES ('AIRPLANE\_TYPE', 'Type\_Name', 'Max Max\_Seats', '550');

-- Insert statistics information for AIRPLANE

INSERT INTO STATISTICS\_AIRPLANE (Table\_Name, Attribute, Statistic\_Type, Statistic\_Value)

VALUES ('AIRPLANE', 'Airplane\_ID', 'Number of Rows', '6');

INSERT INTO STATISTICS\_AIRPLANE (Table\_Name, Attribute, Statistic\_Type, Statistic\_Value)

VALUES ('AIRPLANE', 'Airplane\_ID', 'Average Total\_Number\_of\_Seats', '208.33');

INSERT INTO STATISTICS\_AIRPLANE (Table\_Name, Attribute, Statistic\_Type, Statistic\_Value)

VALUES ('AIRPLANE', 'Airplane\_ID', 'Min Total\_Number\_of\_Seats', '76');

INSERT INTO STATISTICS\_AIRPLANE (Table\_Name, Attribute, Statistic\_Type, Statistic\_Value)

VALUES ('AIRPLANE', 'Airplane\_ID', 'Max Total\_Number\_of\_Seats', '550');

select \* from METADATA\_AIRPLANE;

select \* from STATISTICS\_AIRPLANE;