**DataSense Implementation Log**

This database was implemented using SQL queries. The code is shown below.

CREATE TABLE COMPANY(

TaxID CHAR(10) NOT NULL,

Name VARCHAR(32) NOT NULL,

Address VARCHAR(300) NOT NULL,

PRIMARY KEY(TaxID)

);

CREATE TABLE CUSTOMER(

CustomerID CHAR(10) NOT NULL,

FirstName VARCHAR(16) NOT NULL,

LastName VARCHAR(24) NOT NULL,

Address VARCHAR(300) NOT NULL,

PhoneNumber CHAR(10) NOT NULL,

PRIMARY KEY(CustomerID)

);

CREATE TABLE GARAGE(

GarageID CHAR(10) NOT NULL,

Company\_TaxID CHAR(10) NOT NULL,

Address VARCHAR(300) NOT NULL,

VehicleCapacity SMALLINT,

PRIMARY KEY(GarageID),

FOREIGN KEY(Company\_TaxID) REFERENCES COMPANY(TaxID)

);

CREATE TABLE FLEET(

FleetID CHAR(10) NOT NULL,

Company\_TaxID CHAR(10) NOT NULL,

GarageID CHAR(10) NOT NULL,

ROS SMALLINT,

PRIMARY KEY(FleetID),

FOREIGN KEY(Company\_TaxID) REFERENCES COMPANY(TaxID),

FOREIGN KEY(GarageID) REFERENCES GARAGE(GarageID)

);

CREATE TABLE TRIP(

TripID CHAR(10) NOT NULL,

Company\_TaxID CHAR(10) NOT NULL,

Cust\_ID CHAR(10) NOT NULL,

NumberOfOccupants SMALLINT,

NumberOfIterations SMALLINT NOT NULL,

TravelDistance INT,

TotalCost FLOAT,

PRIMARY KEY(TripID),

FOREIGN KEY(Company\_TaxID) REFERENCES COMPANY(TaxID),

FOREIGN KEY(Cust\_ID) REFERENCES CUSTOMER(CustomerID)

);

CREATE TABLE ROUTE(

TripID CHAR(10) NOT NULL,

Endpoint1 VARCHAR(300) NOT NULL,

Endpoint2 VARCHAR(300) NOT NULL,

OriginFlag BIT NOT NULL,

DestinationFlag BIT NOT NULL,

PRIMARY KEY(TripID),

FOREIGN KEY(TripID) REFERENCES TRIP(TripID)

);

CREATE TABLE VEHICLE(

VIN CHAR(17) NOT NULL,

FleetID CHAR(10),

Make VARCHAR(30) NOT NULL,

Model VARCHAR(30) NOT NULL,

OccupantCapacity SMALLINT,

PRIMARY KEY(VIN),

FOREIGN KEY(FleetID) REFERENCES FLEET(FleetID)

);

CREATE TABLE EMPLOYEE(

SSN CHAR(9) NOT NULL,

GarageID CHAR(10) NOT NULL,

FirstName VARCHAR(16) NOT NULL,

LastName VARCHAR(24) NOT NULL,

DateOfHire DATE,

Salary INT,

PRIMARY KEY(SSN),

FOREIGN KEY(GarageID) REFERENCES GARAGE(GarageID)

);

CREATE TABLE FOREMAN(

SSN CHAR(9) NOT NULL,

LicenseNumber CHAR(8) NOT NULL,

DateOfLastHire DATE,

PRIMARY KEY(SSN),

FOREIGN KEY(SSN) REFERENCES EMPLOYEE(SSN),

UNIQUE(LicenseNumber)

);

CREATE TABLE MECHANIC(

SSN CHAR(9) NOT NULL,

SupervisorSSN CHAR(9),

LicenseNumber CHAR(8) NOT NULL,

InsuranceID CHAR(10),

PRIMARY KEY(SSN),

FOREIGN KEY(SSN) REFERENCES EMPLOYEE(SSN),

FOREIGN KEY(SupervisorSSN) REFERENCES FOREMAN(SSN),

UNIQUE(LicenseNumber)

);

CREATE TABLE MAINTAINS(

MechSSN CHAR(9) NOT NULL,

VehicleVIN CHAR(17) NOT NULL,

FOREIGN KEY(MechSSN) REFERENCES MECHANIC(SSN),

FOREIGN KEY(VehicleVIN) REFERENCES VEHICLE(VIN)

);