# Summary

For a more organized view of the entire project, I recommend going to the Github repository, as everything is broken out into folders with different README’s.

<https://github.com/adrianchen8662/CarDealershipProject>

# Entity-Relationship Design

For this project, the ER diagram was given to us.

A diagram of a flowchart

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Here is the step-by-step ER to Relational Mapping.

Step 1:

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Step 2:

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Step 3:

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Step 4:

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Step 5:

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Step 6:

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# Relational Design

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Certain design decisions around derived entities were made, such as not explicitly having separate entities for Cars owned by a customer, and Cars owned by the dealership. I determined that using whether or not a car had a license plate associated with it was enough to determine whether or not a particular Car was owned by a customer, along with the lookup table Owns or the lookup table Made Purchase/Purchase.

For Failure\_Requires, it was a separate lookup table specifically just for the Task that matches a Failure or Requires.

# Application Program Design

## Overview

The application is a web application developed in Python using the Flask repository, and some of its associated features. The webapp is not configured to be deployed in production environment, and thus will have a warning saying it’s a development server. Connecting to the database, and the secret key necessary for some of the CSS/Javascripting to work are also temporary, and should definitely not be kept in the main python file in an actual deployment. For a final project, however, I thought it would be fine to leave in.

## Application 1

## Application 2

## Application 3

# Appendix

## Relational Instances Used to Populate Database

For more information and the full .sql file used to populate the database, please visit the github link in the Summary. I’ve cut out the INSERT statements to save space, as there are thousands of lines.

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-- Schema Car\_Dealership\_Database

-- -----------------------------------------------------

DROP SCHEMA IF EXISTS `Car\_Dealership\_Database` ;

-- -----------------------------------------------------

-- Schema Car\_Dealership\_Database

-- -----------------------------------------------------

CREATE SCHEMA IF NOT EXISTS `Car\_Dealership\_Database` DEFAULT CHARACTER SET utf8 ;

USE `Car\_Dealership\_Database` ;

-- -----------------------------------------------------

-- Table `Car\_Dealership\_Database`.`Customer`

-- -----------------------------------------------------

DROP TABLE IF EXISTS `Car\_Dealership\_Database`.`Customer` ;

CREATE TABLE IF NOT EXISTS `Car\_Dealership\_Database`.`Customer` (

  `Customer\_ID` INT UNSIGNED NOT NULL AUTO\_INCREMENT,

  `F\_Name` VARCHAR(45) NULL,

  `M\_Init` VARCHAR(45) NULL,

  `L\_Name` VARCHAR(45) NULL,

  `Email` VARCHAR(45) NULL,

  `Phone` VARCHAR(45) NULL,

  `Address` VARCHAR(45) NULL,

  PRIMARY KEY (`Customer\_ID`))

ENGINE = InnoDB;

-- -----------------------------------------------------

-- Table `Car\_Dealership\_Database`.`Package`

-- -----------------------------------------------------

DROP TABLE IF EXISTS `Car\_Dealership\_Database`.`Package` ;

CREATE TABLE IF NOT EXISTS `Car\_Dealership\_Database`.`Package` (

  `Package\_ID` INT UNSIGNED NOT NULL AUTO\_INCREMENT,

  `Name` VARCHAR(45) NULL,

  `Time\_Since\_Purchase` INT NULL,

  PRIMARY KEY (`Package\_ID`))

ENGINE = InnoDB;

-- -----------------------------------------------------

-- Table `Car\_Dealership\_Database`.`Time\_Slot`

-- -----------------------------------------------------

DROP TABLE IF EXISTS `Car\_Dealership\_Database`.`Time\_Slot` ;

CREATE TABLE IF NOT EXISTS `Car\_Dealership\_Database`.`Time\_Slot` (

  `Time\_Slot\_ID` INT UNSIGNED NOT NULL AUTO\_INCREMENT,

  `Start\_Time` DATE NULL,

  `End\_Time` DATE NULL,

  `Date` DATE NULL,

  PRIMARY KEY (`Time\_Slot\_ID`))

ENGINE = InnoDB;

-- -----------------------------------------------------

-- Table `Car\_Dealership\_Database`.`Vehicle\_Type`

-- -----------------------------------------------------

DROP TABLE IF EXISTS `Car\_Dealership\_Database`.`Vehicle\_Type` ;

CREATE TABLE IF NOT EXISTS `Car\_Dealership\_Database`.`Vehicle\_Type` (

  `Vehicle\_ID` INT UNSIGNED NOT NULL AUTO\_INCREMENT,

  `Make` VARCHAR(45) NULL,

  `Model` VARCHAR(45) NULL,

  `Year` INT NULL,

  `Tire\_Type` VARCHAR(45) NULL,

  `Engine\_Type` VARCHAR(45) NULL,

  PRIMARY KEY (`Vehicle\_ID`))

ENGINE = InnoDB;

-- -----------------------------------------------------

-- Table `Car\_Dealership\_Database`.`Car`

-- -----------------------------------------------------

DROP TABLE IF EXISTS `Car\_Dealership\_Database`.`Car` ;

CREATE TABLE IF NOT EXISTS `Car\_Dealership\_Database`.`Car` (

  `Car\_ID` INT UNSIGNED NOT NULL AUTO\_INCREMENT,

  `Interior` VARCHAR(45) NULL,

  `Odometer` INT NULL,

  `Color` VARCHAR(45) NULL,

  `License\_Plate\_State` VARCHAR(45) NULL COMMENT 'Derived Customer\_Cars',

  `License\_Plate` VARCHAR(45) NULL COMMENT 'Derived Customer\_Cars',

  `Cost` DECIMAL(45) NULL COMMENT 'Derived Cars\_In\_Inventory',

  `Vehicle\_Type\_Vehicle\_ID` INT UNSIGNED NOT NULL,

  PRIMARY KEY (`Car\_ID`),

  CONSTRAINT `fk\_Car\_Vehicle\_Type1`

    FOREIGN KEY (`Vehicle\_Type\_Vehicle\_ID`)

    REFERENCES `Car\_Dealership\_Database`.`Vehicle\_Type` (`Vehicle\_ID`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION)

ENGINE = InnoDB;

CREATE INDEX `fk\_Car\_Vehicle\_Type1\_idx` ON `Car\_Dealership\_Database`.`Car` (`Vehicle\_Type\_Vehicle\_ID` ASC) VISIBLE;

-- -----------------------------------------------------

-- Table `Car\_Dealership\_Database`.`Appointment`

-- -----------------------------------------------------

DROP TABLE IF EXISTS `Car\_Dealership\_Database`.`Appointment` ;

CREATE TABLE IF NOT EXISTS `Car\_Dealership\_Database`.`Appointment` (

  `Appointment\_ID` INT UNSIGNED NOT NULL AUTO\_INCREMENT,

  `Drop\_Off` DATE NULL,

  `Pick\_Up` DATE NULL,

  `Appointment\_Made\_Date` DATE NULL,

  `Package\_Package\_ID` INT UNSIGNED NOT NULL,

  `Time\_Slot\_Time\_Slot\_ID` INT UNSIGNED NOT NULL,

  `Customer\_Customer\_ID` INT UNSIGNED NOT NULL,

  `Car\_Car\_ID` INT UNSIGNED NOT NULL,

  PRIMARY KEY (`Appointment\_ID`, `Time\_Slot\_Time\_Slot\_ID`, `Customer\_Customer\_ID`, `Car\_Car\_ID`),

  CONSTRAINT `fk\_Appointment\_Package1`

    FOREIGN KEY (`Package\_Package\_ID`)

    REFERENCES `Car\_Dealership\_Database`.`Package` (`Package\_ID`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION,

  CONSTRAINT `fk\_Appointment\_Time\_Slot1`

    FOREIGN KEY (`Time\_Slot\_Time\_Slot\_ID`)

    REFERENCES `Car\_Dealership\_Database`.`Time\_Slot` (`Time\_Slot\_ID`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION,

  CONSTRAINT `fk\_Appointment\_Customer1`

    FOREIGN KEY (`Customer\_Customer\_ID`)

    REFERENCES `Car\_Dealership\_Database`.`Customer` (`Customer\_ID`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION,

  CONSTRAINT `fk\_Appointment\_Car1`

    FOREIGN KEY (`Car\_Car\_ID`)

    REFERENCES `Car\_Dealership\_Database`.`Car` (`Car\_ID`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION)

ENGINE = InnoDB;

CREATE INDEX `fk\_Appointment\_Package1\_idx` ON `Car\_Dealership\_Database`.`Appointment` (`Package\_Package\_ID` ASC) VISIBLE;

CREATE INDEX `fk\_Appointment\_Time\_Slot1\_idx` ON `Car\_Dealership\_Database`.`Appointment` (`Time\_Slot\_Time\_Slot\_ID` ASC) VISIBLE;

CREATE INDEX `fk\_Appointment\_Customer1\_idx` ON `Car\_Dealership\_Database`.`Appointment` (`Customer\_Customer\_ID` ASC) VISIBLE;

CREATE INDEX `fk\_Appointment\_Car1\_idx` ON `Car\_Dealership\_Database`.`Appointment` (`Car\_Car\_ID` ASC) VISIBLE;

-- -----------------------------------------------------

-- Table `Car\_Dealership\_Database`.`Task`

-- -----------------------------------------------------

DROP TABLE IF EXISTS `Car\_Dealership\_Database`.`Task` ;

CREATE TABLE IF NOT EXISTS `Car\_Dealership\_Database`.`Task` (

  `Task\_ID` INT UNSIGNED NOT NULL AUTO\_INCREMENT,

  `Name` VARCHAR(45) NULL,

  `Estd\_Time` TIME NULL,

  `Est\_Labor\_Cost` DOUBLE NULL,

  PRIMARY KEY (`Task\_ID`))

ENGINE = InnoDB;

-- -----------------------------------------------------

-- Table `Car\_Dealership\_Database`.`Part`

-- -----------------------------------------------------

DROP TABLE IF EXISTS `Car\_Dealership\_Database`.`Part` ;

CREATE TABLE IF NOT EXISTS `Car\_Dealership\_Database`.`Part` (

  `Part\_ID` INT UNSIGNED NOT NULL AUTO\_INCREMENT,

  `Cost\_Of\_Part` DECIMAL(45) NULL,

  `Name` VARCHAR(45) NULL,

  `Task\_Task\_ID` INT UNSIGNED NOT NULL,

  PRIMARY KEY (`Part\_ID`, `Task\_Task\_ID`),

  CONSTRAINT `fk\_Part\_Task1`

    FOREIGN KEY (`Task\_Task\_ID`)

    REFERENCES `Car\_Dealership\_Database`.`Task` (`Task\_ID`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION)

ENGINE = InnoDB;

CREATE INDEX `fk\_Part\_Task1\_idx` ON `Car\_Dealership\_Database`.`Part` (`Task\_Task\_ID` ASC) VISIBLE;

-- -----------------------------------------------------

-- Table `Car\_Dealership\_Database`.`Purchase`

-- -----------------------------------------------------

DROP TABLE IF EXISTS `Car\_Dealership\_Database`.`Purchase` ;

CREATE TABLE IF NOT EXISTS `Car\_Dealership\_Database`.`Purchase` (

  `Purchase\_ID` INT UNSIGNED NOT NULL AUTO\_INCREMENT,

  `Date\_Of\_Purchase` DATE NULL,

  `Sale\_Price` DECIMAL(45) NULL COMMENT 'Was\_Bought Relationship Value',

  `Car\_Car\_ID` INT UNSIGNED NOT NULL,

  PRIMARY KEY (`Purchase\_ID`),

  CONSTRAINT `fk\_Purchase\_Car1`

    FOREIGN KEY (`Car\_Car\_ID`)

    REFERENCES `Car\_Dealership\_Database`.`Car` (`Car\_ID`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION)

ENGINE = InnoDB;

CREATE INDEX `fk\_Purchase\_Car1\_idx` ON `Car\_Dealership\_Database`.`Purchase` (`Car\_Car\_ID` ASC) VISIBLE;

-- -----------------------------------------------------

-- Table `Car\_Dealership\_Database`.`Used\_In`

-- -----------------------------------------------------

DROP TABLE IF EXISTS `Car\_Dealership\_Database`.`Used\_In` ;

CREATE TABLE IF NOT EXISTS `Car\_Dealership\_Database`.`Used\_In` (

  `Vehicle\_Type\_Vehicle\_ID` INT UNSIGNED NOT NULL,

  `Part\_Part\_ID` INT UNSIGNED NOT NULL,

  PRIMARY KEY (`Vehicle\_Type\_Vehicle\_ID`, `Part\_Part\_ID`),

  CONSTRAINT `fk\_Vehicle\_Type\_has\_Part\_Vehicle\_Type`

    FOREIGN KEY (`Vehicle\_Type\_Vehicle\_ID`)

    REFERENCES `Car\_Dealership\_Database`.`Vehicle\_Type` (`Vehicle\_ID`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION,

  CONSTRAINT `fk\_Vehicle\_Type\_has\_Part\_Part1`

    FOREIGN KEY (`Part\_Part\_ID`)

    REFERENCES `Car\_Dealership\_Database`.`Part` (`Part\_ID`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION)

ENGINE = InnoDB;

CREATE INDEX `fk\_Vehicle\_Type\_has\_Part\_Part1\_idx` ON `Car\_Dealership\_Database`.`Used\_In` (`Part\_Part\_ID` ASC) VISIBLE;

CREATE INDEX `fk\_Vehicle\_Type\_has\_Part\_Vehicle\_Type\_idx` ON `Car\_Dealership\_Database`.`Used\_In` (`Vehicle\_Type\_Vehicle\_ID` ASC) VISIBLE;

-- -----------------------------------------------------

-- Table `Car\_Dealership\_Database`.`Recommends`

-- -----------------------------------------------------

DROP TABLE IF EXISTS `Car\_Dealership\_Database`.`Recommends` ;

CREATE TABLE IF NOT EXISTS `Car\_Dealership\_Database`.`Recommends` (

  `Is\_Mandatory` TINYINT NULL,

  `Package\_Package\_ID` INT UNSIGNED NOT NULL,

  `Task\_Task\_ID` INT UNSIGNED NOT NULL,

  PRIMARY KEY (`Package\_Package\_ID`, `Task\_Task\_ID`),

  CONSTRAINT `fk\_Package\_has\_Task\_Package1`

    FOREIGN KEY (`Package\_Package\_ID`)

    REFERENCES `Car\_Dealership\_Database`.`Package` (`Package\_ID`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION,

  CONSTRAINT `fk\_Package\_has\_Task\_Task1`

    FOREIGN KEY (`Task\_Task\_ID`)

    REFERENCES `Car\_Dealership\_Database`.`Task` (`Task\_ID`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION)

ENGINE = InnoDB;

CREATE INDEX `fk\_Package\_has\_Task\_Task1\_idx` ON `Car\_Dealership\_Database`.`Recommends` (`Task\_Task\_ID` ASC) VISIBLE;

CREATE INDEX `fk\_Package\_has\_Task\_Package1\_idx` ON `Car\_Dealership\_Database`.`Recommends` (`Package\_Package\_ID` ASC) VISIBLE;

-- -----------------------------------------------------

-- Table `Car\_Dealership\_Database`.`Was\_Replaced`

-- -----------------------------------------------------

DROP TABLE IF EXISTS `Car\_Dealership\_Database`.`Was\_Replaced` ;

CREATE TABLE IF NOT EXISTS `Car\_Dealership\_Database`.`Was\_Replaced` (

  `Appointment\_Appointment\_ID` INT UNSIGNED NOT NULL,

  `Part\_Part\_ID` INT UNSIGNED NOT NULL,

  PRIMARY KEY (`Appointment\_Appointment\_ID`, `Part\_Part\_ID`),

  CONSTRAINT `fk\_Appointment\_has\_Part\_Appointment1`

    FOREIGN KEY (`Appointment\_Appointment\_ID`)

    REFERENCES `Car\_Dealership\_Database`.`Appointment` (`Appointment\_ID`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION,

  CONSTRAINT `fk\_Appointment\_has\_Part\_Part1`

    FOREIGN KEY (`Part\_Part\_ID`)

    REFERENCES `Car\_Dealership\_Database`.`Part` (`Part\_ID`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION)

ENGINE = InnoDB;

CREATE INDEX `fk\_Appointment\_has\_Part\_Part1\_idx` ON `Car\_Dealership\_Database`.`Was\_Replaced` (`Part\_Part\_ID` ASC) VISIBLE;

CREATE INDEX `fk\_Appointment\_has\_Part\_Appointment1\_idx` ON `Car\_Dealership\_Database`.`Was\_Replaced` (`Appointment\_Appointment\_ID` ASC) VISIBLE;

-- -----------------------------------------------------

-- Table `Car\_Dealership\_Database`.`Additionally\_Scheduled`

-- -----------------------------------------------------

DROP TABLE IF EXISTS `Car\_Dealership\_Database`.`Additionally\_Scheduled` ;

CREATE TABLE IF NOT EXISTS `Car\_Dealership\_Database`.`Additionally\_Scheduled` (

  `Appointment\_Appointment\_ID` INT UNSIGNED NOT NULL,

  `Task\_Task\_ID` INT UNSIGNED NOT NULL,

  PRIMARY KEY (`Appointment\_Appointment\_ID`, `Task\_Task\_ID`),

  CONSTRAINT `fk\_Appointment\_has\_Task\_Appointment1`

    FOREIGN KEY (`Appointment\_Appointment\_ID`)

    REFERENCES `Car\_Dealership\_Database`.`Appointment` (`Appointment\_ID`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION,

  CONSTRAINT `fk\_Appointment\_has\_Task\_Task1`

    FOREIGN KEY (`Task\_Task\_ID`)

    REFERENCES `Car\_Dealership\_Database`.`Task` (`Task\_ID`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION)

ENGINE = InnoDB;

CREATE INDEX `fk\_Appointment\_has\_Task\_Task1\_idx` ON `Car\_Dealership\_Database`.`Additionally\_Scheduled` (`Task\_Task\_ID` ASC) VISIBLE;

CREATE INDEX `fk\_Appointment\_has\_Task\_Appointment1\_idx` ON `Car\_Dealership\_Database`.`Additionally\_Scheduled` (`Appointment\_Appointment\_ID` ASC) VISIBLE;

-- -----------------------------------------------------

-- Table `Car\_Dealership\_Database`.`Was\_Performed`

-- -----------------------------------------------------

DROP TABLE IF EXISTS `Car\_Dealership\_Database`.`Was\_Performed` ;

CREATE TABLE IF NOT EXISTS `Car\_Dealership\_Database`.`Was\_Performed` (

  `Labor\_Cost` DECIMAL(45) NULL,

  `Time` TIME NULL,

  `Appointment\_Appointment\_ID` INT UNSIGNED NOT NULL,

  `Task\_Task\_ID` INT UNSIGNED NOT NULL,

  PRIMARY KEY (`Appointment\_Appointment\_ID`, `Task\_Task\_ID`),

  CONSTRAINT `fk\_Appointment\_has\_Task1\_Appointment1`

    FOREIGN KEY (`Appointment\_Appointment\_ID`)

    REFERENCES `Car\_Dealership\_Database`.`Appointment` (`Appointment\_ID`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION,

  CONSTRAINT `fk\_Appointment\_has\_Task1\_Task1`

    FOREIGN KEY (`Task\_Task\_ID`)

    REFERENCES `Car\_Dealership\_Database`.`Task` (`Task\_ID`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION)

ENGINE = InnoDB;

CREATE INDEX `fk\_Appointment\_has\_Task1\_Task1\_idx` ON `Car\_Dealership\_Database`.`Was\_Performed` (`Task\_Task\_ID` ASC) VISIBLE;

CREATE INDEX `fk\_Appointment\_has\_Task1\_Appointment1\_idx` ON `Car\_Dealership\_Database`.`Was\_Performed` (`Appointment\_Appointment\_ID` ASC) VISIBLE;

-- -----------------------------------------------------

-- Table `Car\_Dealership\_Database`.`Made\_Purchase`

-- -----------------------------------------------------

DROP TABLE IF EXISTS `Car\_Dealership\_Database`.`Made\_Purchase` ;

CREATE TABLE IF NOT EXISTS `Car\_Dealership\_Database`.`Made\_Purchase` (

  `Customer\_Customer\_ID` INT UNSIGNED NOT NULL,

  `Purchase\_Purchase\_ID` INT UNSIGNED NOT NULL,

  PRIMARY KEY (`Customer\_Customer\_ID`, `Purchase\_Purchase\_ID`),

  CONSTRAINT `fk\_Customer\_has\_Purchase\_Customer1`

    FOREIGN KEY (`Customer\_Customer\_ID`)

    REFERENCES `Car\_Dealership\_Database`.`Customer` (`Customer\_ID`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION,

  CONSTRAINT `fk\_Customer\_has\_Purchase\_Purchase1`

    FOREIGN KEY (`Purchase\_Purchase\_ID`)

    REFERENCES `Car\_Dealership\_Database`.`Purchase` (`Purchase\_ID`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION)

ENGINE = InnoDB;

CREATE INDEX `fk\_Customer\_has\_Purchase\_Purchase1\_idx` ON `Car\_Dealership\_Database`.`Made\_Purchase` (`Purchase\_Purchase\_ID` ASC) VISIBLE;

CREATE INDEX `fk\_Customer\_has\_Purchase\_Customer1\_idx` ON `Car\_Dealership\_Database`.`Made\_Purchase` (`Customer\_Customer\_ID` ASC) VISIBLE;

-- -----------------------------------------------------

-- Table `Car\_Dealership\_Database`.`Owns`

-- -----------------------------------------------------

DROP TABLE IF EXISTS `Car\_Dealership\_Database`.`Owns` ;

CREATE TABLE IF NOT EXISTS `Car\_Dealership\_Database`.`Owns` (

  `Customer\_Customer\_ID` INT UNSIGNED NOT NULL,

  `Car\_Car\_ID` INT UNSIGNED NOT NULL,

  PRIMARY KEY (`Customer\_Customer\_ID`, `Car\_Car\_ID`),

  CONSTRAINT `fk\_Customer\_has\_Car\_Customer1`

    FOREIGN KEY (`Customer\_Customer\_ID`)

    REFERENCES `Car\_Dealership\_Database`.`Customer` (`Customer\_ID`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION,

  CONSTRAINT `fk\_Customer\_has\_Car\_Car1`

    FOREIGN KEY (`Car\_Car\_ID`)

    REFERENCES `Car\_Dealership\_Database`.`Car` (`Car\_ID`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION)

ENGINE = InnoDB;

CREATE INDEX `fk\_Customer\_has\_Car\_Car1\_idx` ON `Car\_Dealership\_Database`.`Owns` (`Car\_Car\_ID` ASC) VISIBLE;

CREATE INDEX `fk\_Customer\_has\_Car\_Customer1\_idx` ON `Car\_Dealership\_Database`.`Owns` (`Customer\_Customer\_ID` ASC) VISIBLE;

-- -----------------------------------------------------

-- Table `Car\_Dealership\_Database`.`Failure\_Requires`

-- -----------------------------------------------------

DROP TABLE IF EXISTS `Car\_Dealership\_Database`.`Failure\_Requires` ;

CREATE TABLE IF NOT EXISTS `Car\_Dealership\_Database`.`Failure\_Requires` (

  `Task\_Task\_ID1` INT UNSIGNED NOT NULL,

  `Task\_Task\_ID2` INT UNSIGNED NOT NULL,

  PRIMARY KEY (`Task\_Task\_ID1`, `Task\_Task\_ID2`),

  CONSTRAINT `fk\_Task\_has\_Task\_Task1`

    FOREIGN KEY (`Task\_Task\_ID1`)

    REFERENCES `Car\_Dealership\_Database`.`Task` (`Task\_ID`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION,

  CONSTRAINT `fk\_Task\_has\_Task\_Task2`

    FOREIGN KEY (`Task\_Task\_ID2`)

    REFERENCES `Car\_Dealership\_Database`.`Task` (`Task\_ID`)

    ON DELETE NO ACTION

    ON UPDATE NO ACTION)

ENGINE = InnoDB;

CREATE INDEX `fk\_Task\_has\_Task\_Task2\_idx` ON `Car\_Dealership\_Database`.`Failure\_Requires` (`Task\_Task\_ID2` ASC) VISIBLE;

CREATE INDEX `fk\_Task\_has\_Task\_Task1\_idx` ON `Car\_Dealership\_Database`.`Failure\_Requires` (`Task\_Task\_ID1` ASC) VISIBLE;