PART 2- MAPPING OF EER SCHEMA DESIGN

CUSTOMER

Id_no	Name	Phone	Email

CAR_TYPE

Type	Daily Rate	Weekly Rate	Rental_Location

CAR

Vechile_Id	Model	Type	Owner	Year

RESERVATION

Reservation_no	Id_no	Vechile_Id	Amount Due

DAILY RENTAL

Id_no	Vechile_id	Start Date	Return Date	No. of Days

WEEKLY RENTAL

Id_no	Vechile_id	Start Date	Return Date	No. of Weeks

AVAILABILITY

Vechile_Id	Is_Available	Avail_start	Avail_end

CREATE TABLE STATEMENTS

CUSTOMER

```
CREATE TABLE `rentals`.`customer` ( `custid` INT NOT NULL , `name` VARCHAR(25) NOT NULL , `phone` INT(10) NOT NULL , `email` TEXT NOT NULL , PRIMARY KEY (`custid`)) ENGINE = InnoDB;
```

CAR_TYPE

```
CREATE TABLE `rentals`.`car_type` ( `car_type` TEXT NOT NULL , `daily_rate` FLOAT(10) NOT NULL , `weekly_rate` FLOAT(10) NOT NULL , `location` TEXT NOT NULL , PRIMARY KEY (`car_type`(10))) ENGINE = InnoDB;
```

CAR

```
CREATE TABLE `rentals`.`car` ( `car_id` INT(10) NOT NULL , `model` TEXT NOT NULL , `year` INT(4) NOT NULL , `car_type` TEXT NOT NULL , `owner` TEXT NOT NULL , PRIMARY KEY (`car_id`), UNIQUE `car_type` (`car_type`)) ENGINE = InnoDB;
```

```
ALTER TABLE `car` ADD FOREIGN KEY (`car_type`) REFERENCES `car_type`(`car_type`) ON DELETE CASCADE ON UPDATE CASCADE;
```

RESERVATION

```
CREATE TABLE `rentals`.`reservation` ( `res_id` INT(10) NOT NULL , `amt_due` FLOAT(10) NOT NULL , `car_id` INT(10) NOT NULL , `custid` INT(10) NOT NULL , PRIMARY KEY (`res_id`(10))) ENGINE = InnoDB;
```

```
ALTER TABLE `reservation` ADD CONSTRAINT `f_carid` FOREIGN KEY (`car_id`) REFERENCES `car`(`car_id`) ON DELETE CASCADE ON UPDATE CASCADE; ALTER TABLE `reservation` ADD CONSTRAINT `f_custid` FOREIGN KEY (`custid`) REFERENCES `customer`(`custid`) ON DELETE CASCADE ON UPDATE CASCADE;
```

DAILY_RENTAL

CREATE TABLE `rentals`.`daily_rental` (`car_id` INT(10) NOT NULL , `custid` INT(10) NOT NULL , `days` INT(10) NOT NULL , `start_date` DATE NOT NULL , `return_date` DATE NOT NULL) ENGINE = InnoDB;

ALTER TABLE `daily_rental` ADD CONSTRAINT `f_d_carid` FOREIGN KEY (`car_id`) REFERENCES `car`(`car_id`) ON DELETE CASCADE ON UPDATE CASCADE; ALTER TABLE `daily_rental` ADD CONSTRAINT `f_d_custid` FOREIGN KEY (`custid`) REFERENCES `customer`(`custid`) ON DELETE CASCADE ON UPDATE CASCADE;

WEEKLY_RENTAL

CREATE TABLE `rentals`.`weekly_rental` (`car_id` INT(10) NOT NULL , `custid` INT(10) NOT NULL , `weeks` INT(10) NOT NULL , `start_date` DATE NOT NULL , `return_date` DATE NOT NULL) ENGINE = InnoDB;

ALTER TABLE `weekly_rental` ADD CONSTRAINT `f_w_carid` FOREIGN KEY (`car_id`) REFERENCES `car`(`car_id`) ON DELETE CASCADE ON UPDATE CASCADE; ALTER TABLE `weekly_rental` ADD CONSTRAINT `f_w_custid` FOREIGN KEY (`custid`) REFERENCES `customer`(`custid`) ON DELETE RESTRICT ON UPDATE RESTRICT;

AVAILABILITY

CREATE TABLE `rentals`.`availability` (`car_id` INT(10) NOT NULL , `is_available` VARCHAR(10) NOT NULL , `avai_start` DATE NOT NULL , `avai_end` DATE NOT NULL) ENGINE = InnoDB;

ALTER TABLE `availability` ADD CONSTRAINT `f_a_carid` FOREIGN KEY (`car_id`) REFERENCES `car`(`car_id`) ON DELETE CASCADE ON UPDATE CASCADE;

DESCRIPTION

In the EER Diagram the following are considered as tables CUSTOMER, CAR_TYPE, CAR, DAILY_RENTAL, WEEKLY_RENTAL, AVAILABILITY, RESERVATION.

The **Id_no** of DAILY_RENTAL, WEEKLY_RENTAL, RESERVATION **References** the **Id_no** of CUSTOMER Table.

The **Vechile_Id** of DAILY_RENTAL, WEEKLY_RENTAL, AVAILABILITY, RESERVATION **REFERENCES Vechile_Id** of CAR.

The **Type** of CAR **REFERENCES** CAR_TYPE

Tables such as DAILY_RENTAL, AVAILABILITY and WEEKLY_RENTAL were newly added. The RESERVATION table has a **Total Participation** of daily_rental and weekly_rental table with **OVERLAPPING Specialization**.

Amount_due and **Return_date** are **weak attributes** because their values need to be computed from the other attributes.

RESERVATION and **AVAILABILITY** TABLES are **WEAK ENTITIES**.

KEY, REFERENTIAL INTEGRITY CONSTRAINT:

In CUSTOMER TABLE Car_Id, name, phone, email is NOT NULL.

In CAR_TYPE TABLE Type, daily_rate, weekly_rate is NOT NULL.

In CAR TABLE car_type has UNIQUE Key Constraint.

The **Type** of CAR **REFERENCES** CAR_TYPE of attribute car_type. When Car_type is deleted or Updated the changes will be made in CAR table by using of **ON DELETE CASCADE ON UPDATE CASCADE.**

The **Vechile_Id** of DAILY_RENTAL, WEEKLY_RENTAL, AVAILABILITY, RESERVATION **REFERENCES Vechile_Id** of CAR. When **Vechile_Id** of CAR is type is deleted or Updated the changes will be made in DAILY_RENTAL, WEEKLY_RENTAL, AVAILABILITY, RESERVATION tables by using of **ON DELETE CASCADE ON UPDATE CASCADE.**

The **Id_no** of DAILY_RENTAL, WEEKLY_RENTAL, RESERVATION **References** the **Id_no** of CUSTOMER Table. When Id_no of CUSTOMER is deleted or Updated the changes will be made in DAILY_RENTAL, WEEKLY_RENTAL, RESERVATION tables by using of **ON DELETE CASCADE ON UPDATE CASCADE.**