PROJECT 2 PART 1

CSE 3330
GROUP 8

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This Project includes an ER Diagram and Relational Schema which models a car rental database. The car rental database will facilitate tracking of customers and the cars they rent. The modeling diagrams consist of Entities and attributes, and relationships across them. The ER Diagram includes the entities Customer, Rentals, Car, Daily and Weekly.

- The Customer includes the Name, Phone and IdNo of the customer, where IdNo is a primary key.
- The Car consists of attributes like Model, VehicleID, Year and Type, where VehicleID is a primary key.
- The Type entity represents attributes TypeName, TypeWeeklyR, TypeDailyR where .TypeName is the primary key.
- The Rentals include primary Key RentalNo and attributes Customer, Car, RentalType and Amount due.
- The Daily Attribute with primary key RentalNo with attributes StartDate, NoOfDays and ReturnDate
- The Weekly Attribute consists of RentalNo, StartDate, NoOfWeeks and ReturnDate where RentalNo is a primary key.
- For Relationships Customer Relates to Rentals, Rentals Relates to Cars and Rentals Relates to Daily and Weekly.
- We choose this representation of The ER Diagram because it identifies all the key relationships and includes all the required attributes outlined by the miniworld. The major choice we made was to make Daily and Weekly which are types of rental as their own attributes because it would represent what the actual SQL database would look like.

The Relational Schema Includes the entities Customer, Rentals, Car, Daily and Weekly.

- The Customer entity has the Attributes: Name, Phone, idNo as Primary Key.
- The Car entity consists of Attributes: Model, VehicleID as Primary Key, Year and Type.
- The Type entity represents attributes : TypeName, TypeWeeklyR, TypeDailyR.
- The Rentals entity includes the Attributes: RentalNo as Primary Key, Customer, Car, RentalType and Amount due.
- The Weekly Attribute consists of: RentalNo as primary key, StartDate, NoOfWeeks and ReturnDate.
- The Daily has the Attributes: RentalNo as Primary Key, StartDate, NoOfDays and ReturnDate
- We choose to add an entity TYPE in our schema because it is more representative of the tables that will be includes in our database, all the other entities come directly from the ER diagram.

The Relational Schema

CUSTOMER

Name	IdNo	Phone

CAR

Model	VehicleID	Year	Type

TYPE

TypeName	TypeWeeklyR	TypeDailyR

RENTALS

CustomerID	CarID	RentalType	RentalNo	AmountDue

WEEKLY

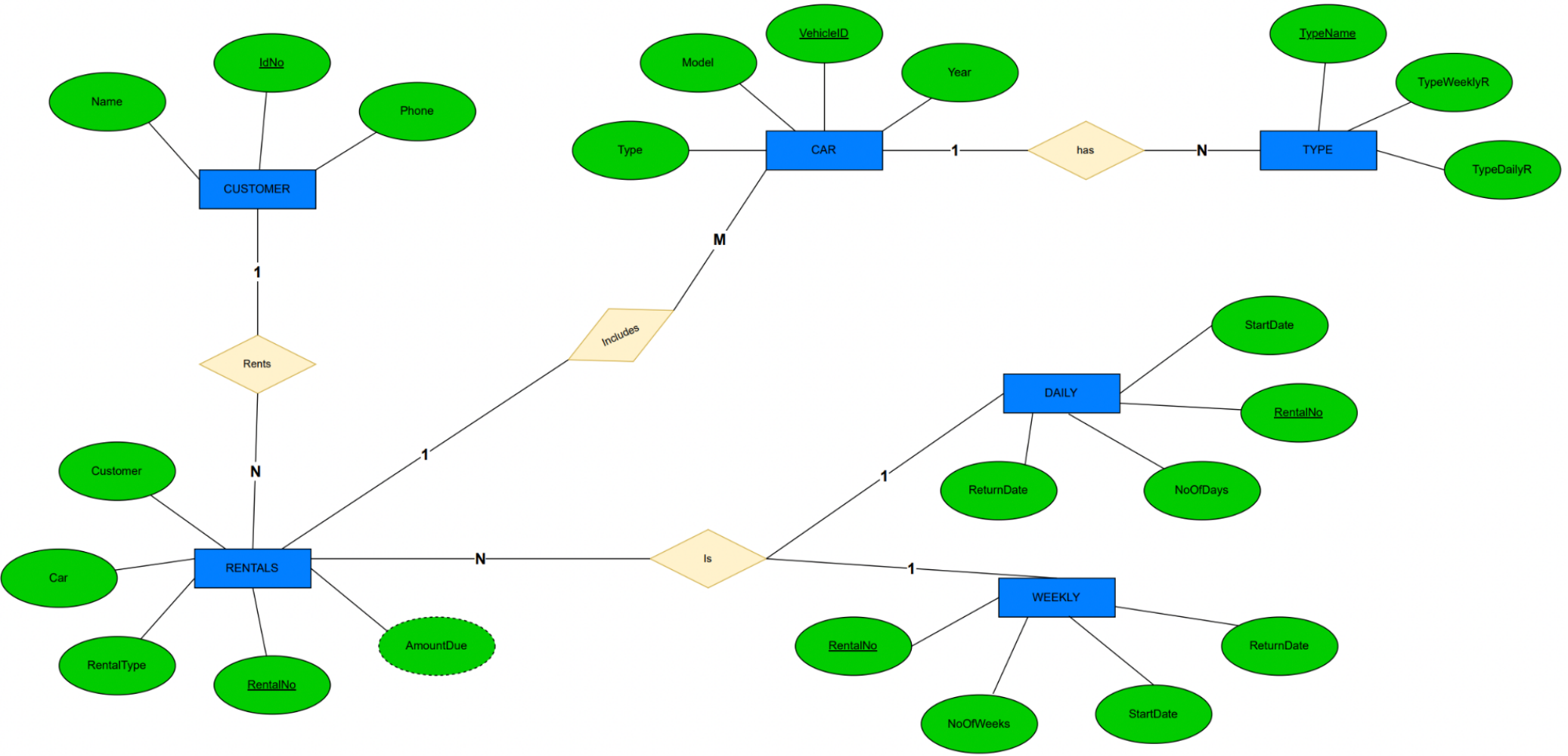
RentalNo	NoOfWeeks	StartDate	ReturnDate

DAILY

RentalNo	NoOfDays	ReturnDate	StartDate

Note: Primary Keys are Underlined and Foreign Keys are shown on table in the Next Page

ENTITY	**Primary Key**	**Foreign Key**
CUSTOMER	IdNo	
CAR	VehicleID	
TYPE	TypeName	TypeName References Car Type
RENTALS	RentalNo	CustomerID references Customer IdNo, CarID references Car VehicleID
WEEKLY	RentalNo	RentalNo references Rentals RentalNo
DAILY	RentalNo	RentalNo references Rentals RentalNo


IdNo
Name
Phone
CUSTOMER
1
Rents
N
Customer
Car
RentalType
RentalNo
RENTALS
AmountDue
1
Includes
M
VehicleID
Model
Year
Type
CAR
1
has
N
TypeName
TypeWeeklyR
TypeDailyR
TYPE
N
Is
1
1
DAILY
StartDate
RentalNo
ReturnDate
NoOfDays
WEEKLY
RentalNo
ReturnDate
NoOfWeeks
StartDate

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