## Group Members:

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## Entity choices and naming (Logical and Relational)

**Branch Office:** Branch\_ID\_PK, BranchDesc, Phone, Address.

**Car Table:** Car\_Reg\_PK, DailyCost, Model\_ID\_Fk, FuelType.

**Model:** Model\_ID\_PK, Manufacture, Model, Category.

**Rent Contract:** Contract\_ID\_PK, Rent Period Start, Rent Period End, Fuel in Tank, Pick up Location, Return Location, Customer\_ID\_FK, Sales\_ID\_FK, Car\_Reg\_FK, Usage\_ID\_FK.

**Customer:** Customer\_ID\_PK, Name, Address, Email, Age(18+)(NOT NULL)

**SalesRep:** Rep\_ID\_PK, Branch\_ID\_FK, Store Location, Name, Address, Phone, Email(@speedyrentals.com).

**Transaction:** Transaction\_ID\_PK, Rep\_ID\_FK, Contract\_ID\_FK, TransactionStatus, Branch\_D\_FK, Date, PreviousTransID.

**Bill:** Bill\_ID\_PK, Duration of rent, DailyCost, Mileage, Usage\_ID\_FK, Contract\_ID\_FK, TotalCost,

**CarUseData:** Usage\_ID\_PK, Mileage at Start, Mileage at End, Pick\_up\_time, Return\_Time, Mileage Exceed Charge Amount.

## Datatypes

**Branch Office:** Branch\_ID\_PK Numeric(7), BranchDesc Varchar(30), Phone Numeric(10), Address Varchar(50).­­\_

**Car Table:** Car\_Reg\_PK Numeric(7), DailyCost Numeric(9,2), Model\_ID\_Fk Numeric(7), FuelType Varchar(30).

**Model:** Model\_ID\_PK Numeric(7), Manufacture Varchar(30), Model Varchar(30), Category Varchar(30).

**Rent Contract:** Contract\_ID\_PK Numeric(7), Rent Period Start DATE(D/M/Y), Rent Period End DATE(D/M/Y), Fuel in Tank Varchar(30), Pick up Location Varchar(50), Return Location Varchar(50), Customer\_ID\_FK Numeric(7), Sales\_ID\_FK Numeric(7), Car\_Reg\_FK Numeric(7), Usage\_ID\_FK Numeric(7).

**Customer:** Customer\_ID\_PK Numeric(7), Name Varchar(30), Address Varchar(50), Email Varchar(30), Age Numeric(3) (18+)(NOT NULL)

**SalesRep:** Rep\_ID\_PK Numeric(7), Branch\_ID\_FK Numeric(7), Store Location Varchar(50), Name Varchar(30), Address Varchar(50), Phone Numeric(10), Email Varchar(30) (@speedyrentals.com).

**Transaction:** Transaction\_ID\_PK Numeric(7), Rep\_ID\_FK Numeric(7), Contract\_ID\_FK Numeric(7), TransactionStatus Varchar(30), Branch\_D\_FK Numeric(7), Date DATE(D/M/Y), PreviousTransID Numeric(7),.

**Bill:** Bill\_ID\_PK Numeric(7), Duration of rent Varchar(30), DailyCost Numeric(9,2), Mileage Numeric(20), Usage\_ID\_FK Numeric(7), Contract\_ID\_FK Numeric(7), TotalCost Numeric(9,2),

**CarUseData:** Usage\_ID\_PK Numeric(7), Mileage at Start Numeric(20), Mileage at End Numeric(20), Pick\_up\_time TIME, Return\_Time TIME, Mileage Exceed Charge amount Numeric(9,2).

## Domain Types

|  |  |  |  |
| --- | --- | --- | --- |
| Domain Type Name | Type Definition | Reason Introduced | Example |
| Address | VARCHAR(50) | For attributes which are character based address | Customer\_address |
| Date | DATE | FOR DOB, The customer Must be over 18 | Date\_of\_birth |
| Time & Date | TIMESTAMP WITH LOCAL ZONE | Date and time attributes which require a very clearly defined time element | Rent\_period\_start |
| CarRegistration | Numeric(7) | A unique ID for each car reg | Car\_reg\_PK |
| Duration |  |  |  |
| Identifier | Numeric(7) | A unique ID for each so we can find a customer | Customer\_ID |
| ShortSting | VARCHAR(30) | For attributes which list their names | Fist\_name, last\_name |
| Title | VRACHAR(10) | For MR, Ms | Customer\_Title |
| PhoneNumber | Nurmeric(10) | Contact number for customer and branch | Customer\_number |
| Email | VARCHAR(30) | Contact email for reps and customers | Customer\_email |
| FuelQty | Numeric(3) | For if the fuel is full or empty | Fuel\_in\_tank |
| FuelType | VARCHAR(10) | Petrol, diesel |  |
| KilometreDistance | Numeric(7,3) | Distance | Mileage\_at\_start |
| EuroCurrency | Numeric(9,2) | For attributes which represent monetary amounts | Total\_cost |

## Major Decisions

<<Have a section per decision. This can include decisions such as where to place particular attributes, whether to have an entity, what type of relationship to use. Anything you had to discuss you should include a section for. E.g.

### Decision 1

Decided to have an extra table called “CarUseData”. This Table helps us to figure out the mileage exceed charge amount. But we couldn’t use any formula in the data modeler so we decided to do it sql part if we needed.

### Decision 2

We made two domains for the age and the date, because we had to say customer must be over 18

So we had to make two domains , which called “DATE”(for age MUST BE 18+) and “DATE & TIME” for the date of rental start and end.

### Decision 3

Car take diesel or petrol fuel, and it should be include in car, as models can have different engines.

### Decision 4

In the rental contract table we included rental period and also the pick up date and time and returns need to be recorded.

### Decision 5

Customer have one to many contracts relationship.

### Decision 6

We made a table called transaction which stores the details of store and sales rep who handled the transaction.

### Decision 7

We also have sales rep table which have the information of the rep and their emails must be @speedyrentals.com

### Decision 8

In transaction table, each rental is verified, failed transaction are kept, if transaction succeeds customer gets a copy of rental agreement which is recorded so that means transaction table needs the contract\_ID\_FK, also the transaction table contains sale\_REP\_ID\_FK

### Decision 9

The bill table would give a customer full details about their rental and it contains of rental daily cost and mileage.