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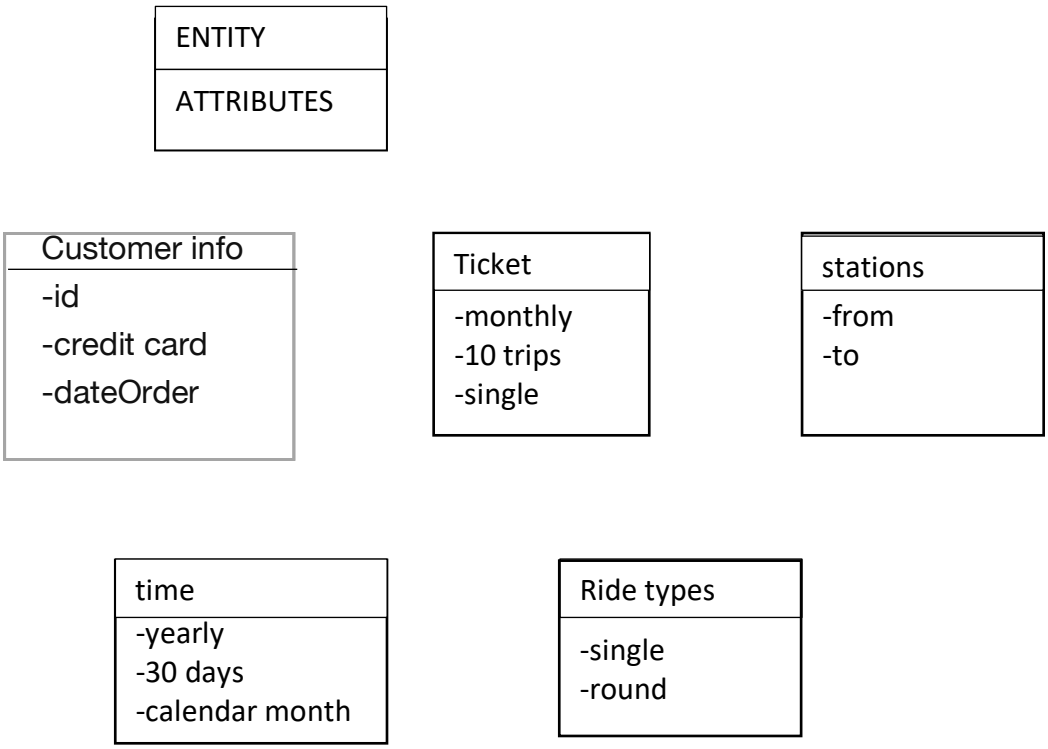
CSCI 43500-02
October 11, 2018

Identify the data elements you have to store so you can print the tickets.

Given these data elements come up with a E-R model (30 points) and normalize (50 points) using the steps outlined.

Generate E-R diagram (20 points).

Data elements that I need to store to print the tickets are:
customer info(id number or ticket number , credit card, date ordered, ticket types or trips, stations, valid time and ride types.



E-R model

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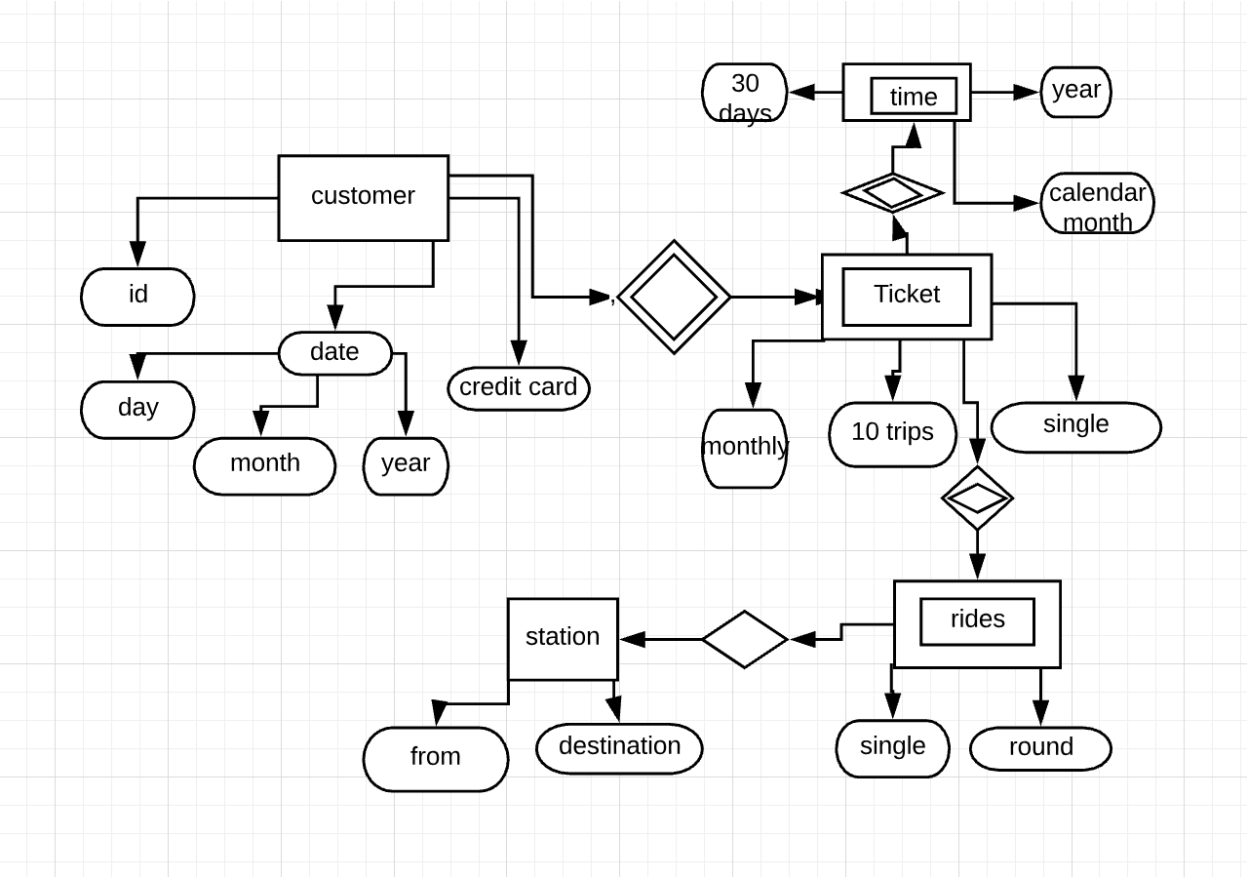

E-R Diagram

Normalize:

Super key: (id, credit card, date, trip type)
(id), (id, credit card), (id, credit card, date), (id, credit card, date, trip type)
Candidate key: (id), (id, credit card)
Primary key: (id)

Explanation:

Customer, ticket, rides, stations and time are entities. Ticket, time and rides are a weak entity. Ticket is weak entity because without customer, there can not be ticket, so its double

squared and there is identifying relationship between them. Likewise, valid time is dependent on type of ticket and rides also depend on type of ticket. Id is underlined as it is key attribute.

I chose this database design as I try to make it easy to walk through the relationship between entities and their attributes. And it is easier to retrieve the information.