Structure: repeated for clarity of the part of the exercise you are on

TO SUBMIT: part 2 of the Lab (only) upload to Canvas as a Word Doc

Answer the following question: What does this diagram enforce and what it does not enforce in relationships between package, sender and receiver.

Grading rubric:

a.   Full credit: explanation has to be understandable and make sense

b.   Partial credit: It does not make total sense

c.   Zero credits: not submitted or submitted a set of words TA cannot understand after they read it 2 times

Part 1

Process of Developing E-R Diagram

1. Read carefully the requirements document

2. Read carefully the requirements document one more time ☺

3. Define entity sets that contain all data objects that you need. Define attributes and a primary key for each entity set

4. Define relationships between entities that reflect the requirements *completely*

5. Define total and partial participation in the relationships

6. Improve your design: eliminate redundancy, correct errors, etc

7. Improve your design again ☺

- **Read carefully the requirements document**

- Define entity sets that contain all data objects that you need. Define attributes and a primary key for each entity set

- Define relationships between entities that reflect the requirements completely

- Define total and partial participation in the relationships

- Improve your design: eliminate redundancy, correct errors, etc
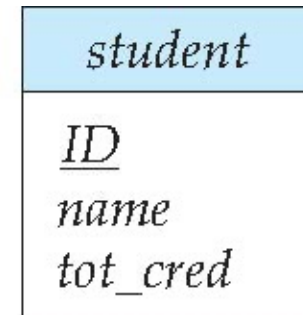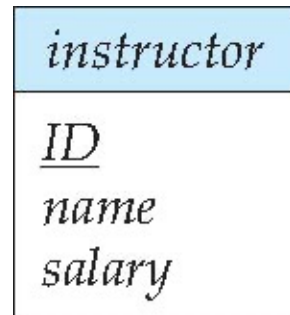
Requirement Document

Design a database for an automobile company to provide to its dealers to assist them in maintaining customer records and dealer inventory and to assist sales staff in ordering cars.

Each vehicle is identified by a vehicle identification number (VIN). Each individual vehicle is a particular model of a particular brand offered by the company (e.g., the XF is a model of the car brand Jaguar of Tata Motors). Each model can be offered with a variety of options, but an individual car may have only some (or none) of the available options.

The E-R diagram needs to store information about models, brands, and all options available for each model, as well as information about individual dealers, customers, cars, and actual options for each vehicle.
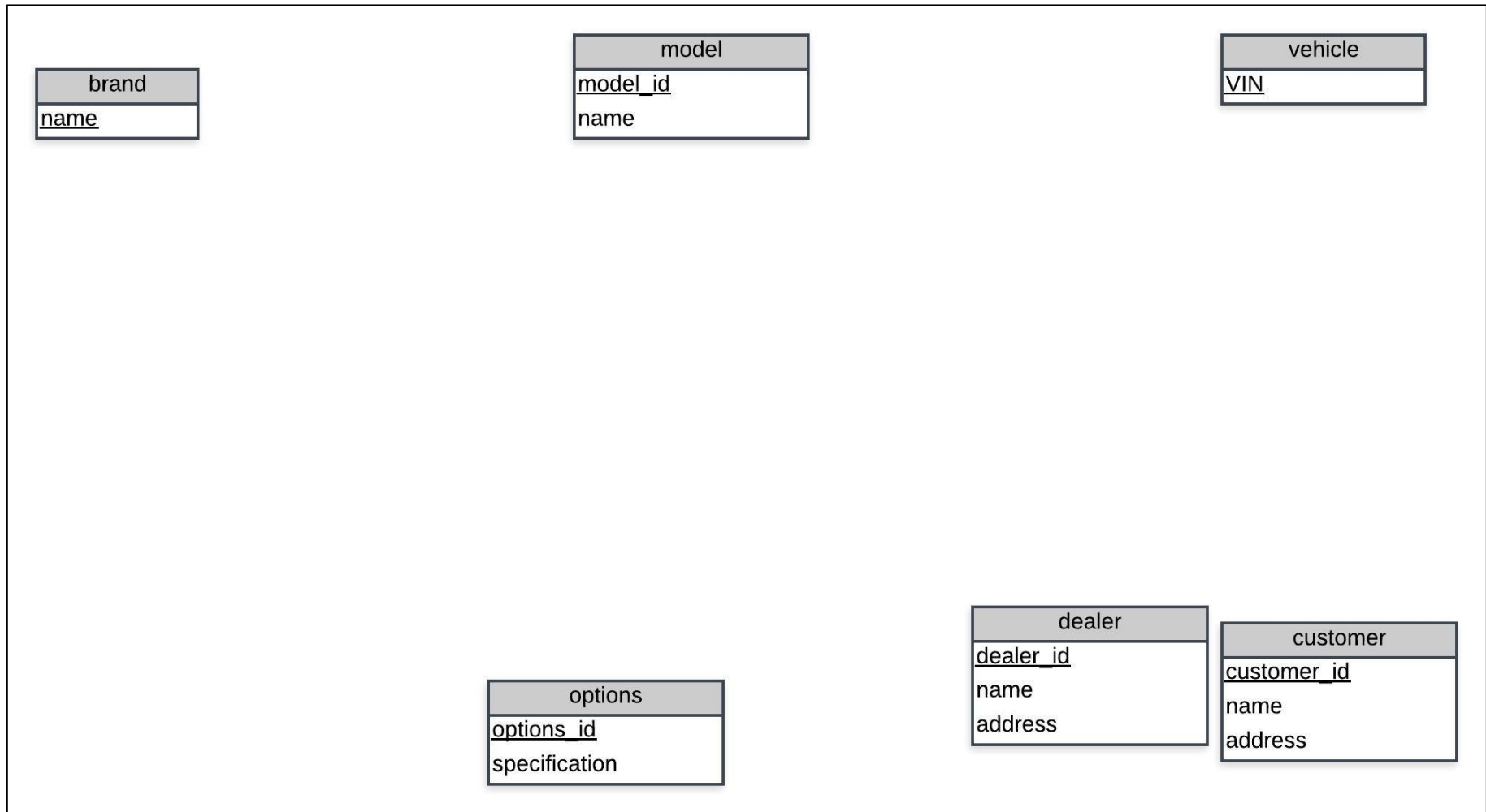
Developing E-R Diagram - Part 1

- Read carefully the requirement documents

- **Define entity sets that contain all data objects that you need. Define attributes and a primary key for each entity set**

- Define relationships between entities that reflect the requirements completely

- Define total and partial participation in the relationships

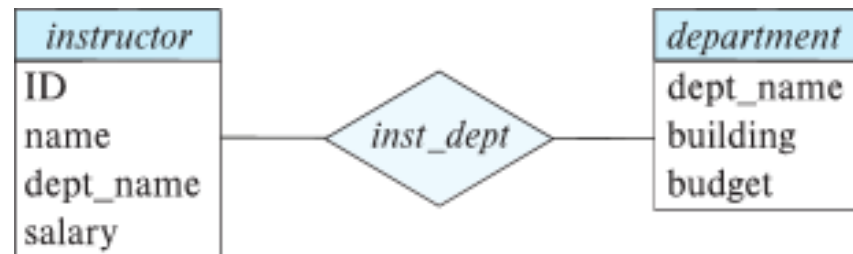- Improve your design: eliminate redundancy, correct errors, etc

instructor
<u>ID</u>
name
salary

student
<u>ID</u>
name
tot_cred

Developing E-R Diagram - Part1

- **Define entity sets that contain all data objects that you need. Define attributes and a primary key for each entity set**

brand
name

model
model_id
name

vehicle
VIN

options
options_id
specification

dealer
dealer_id
name
address

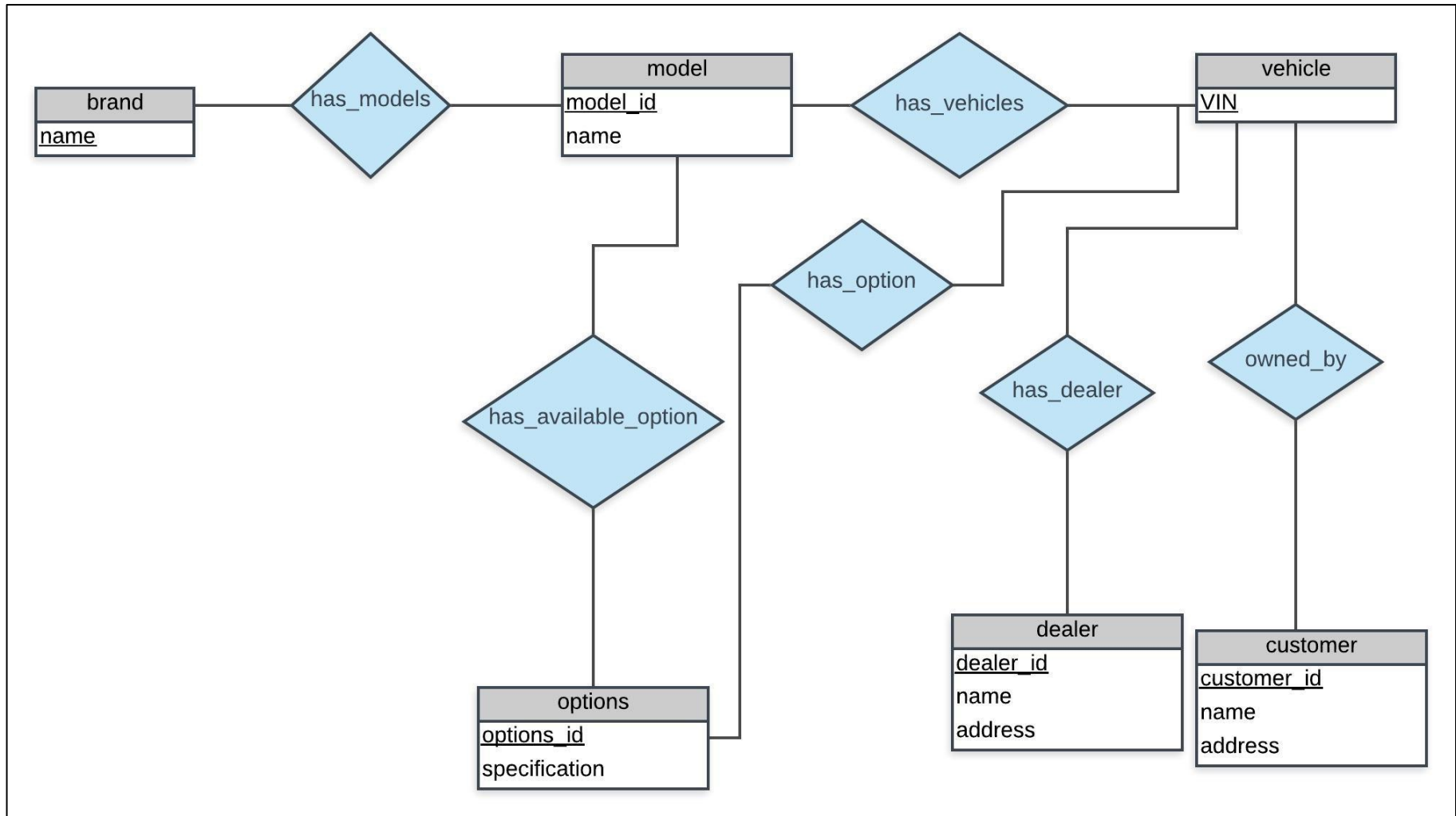| customer |
|----------|
| customer_id |
| name |
| address |

Developing E-R Diagram - Part1

- Read carefully the requirements document

- Define entity sets that contain all data objects that you need. Define attributes and a primary key for each entity set

- **Define relationships between entities that reflect the requirements completely**

- Define total and partial participation in the relationships

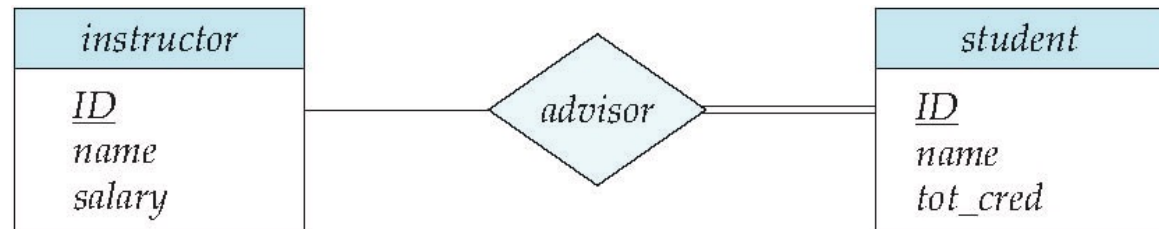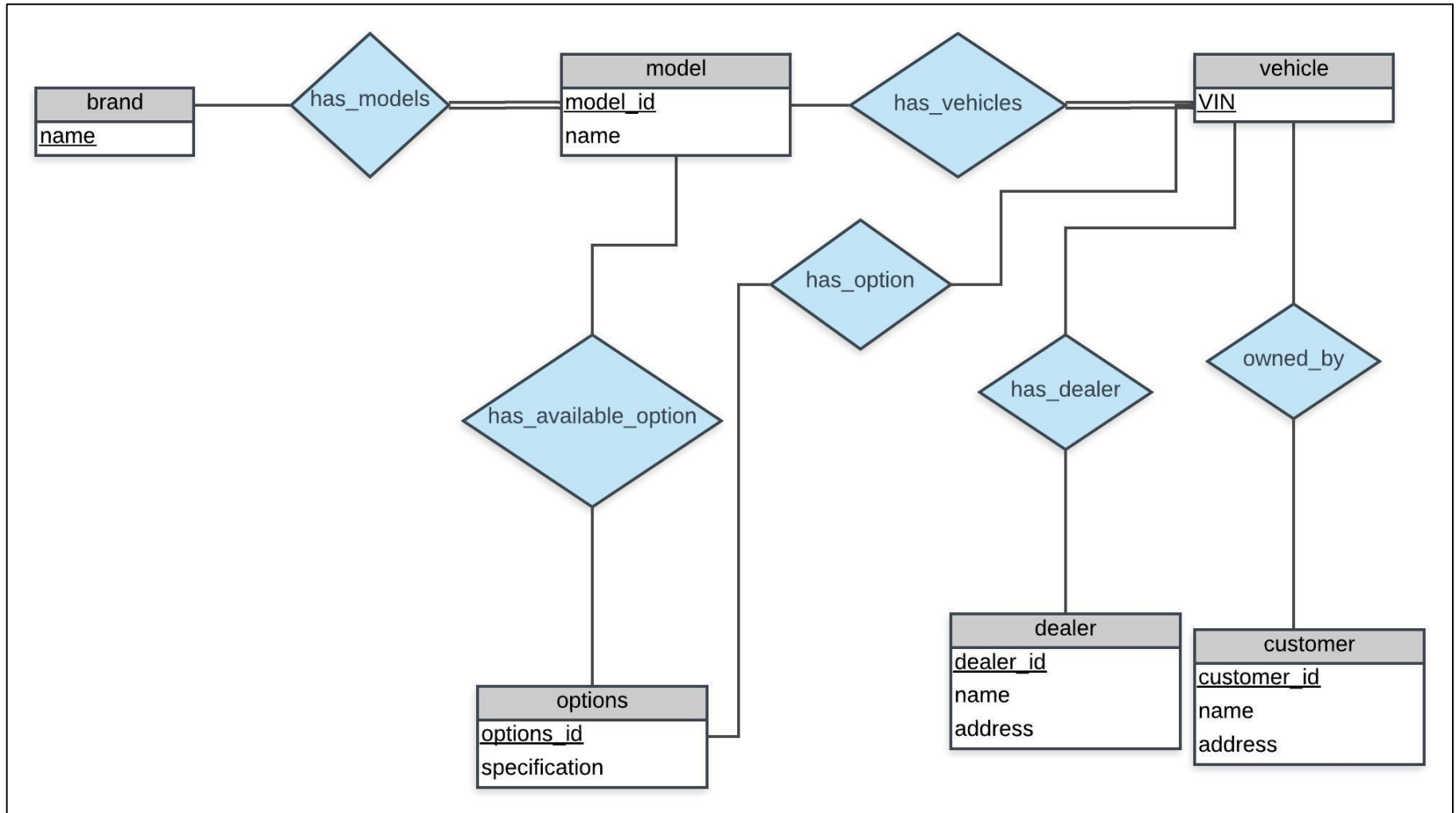- Improve your design: eliminate redundancy, correct errors, etc

- **Define relationships between entities that reflect the requirements completely**

- Read carefully the requirements document

- Define entity sets that contain all data objects that you need. Define attributes and a primary key for each entity set

- Define relationships between entities that reflect the requirements completely

- **Define total and partial participation in the relationships**

- Improve your design: eliminate redundancy, correct errors, etc

Developing E-R Diagram - Part1

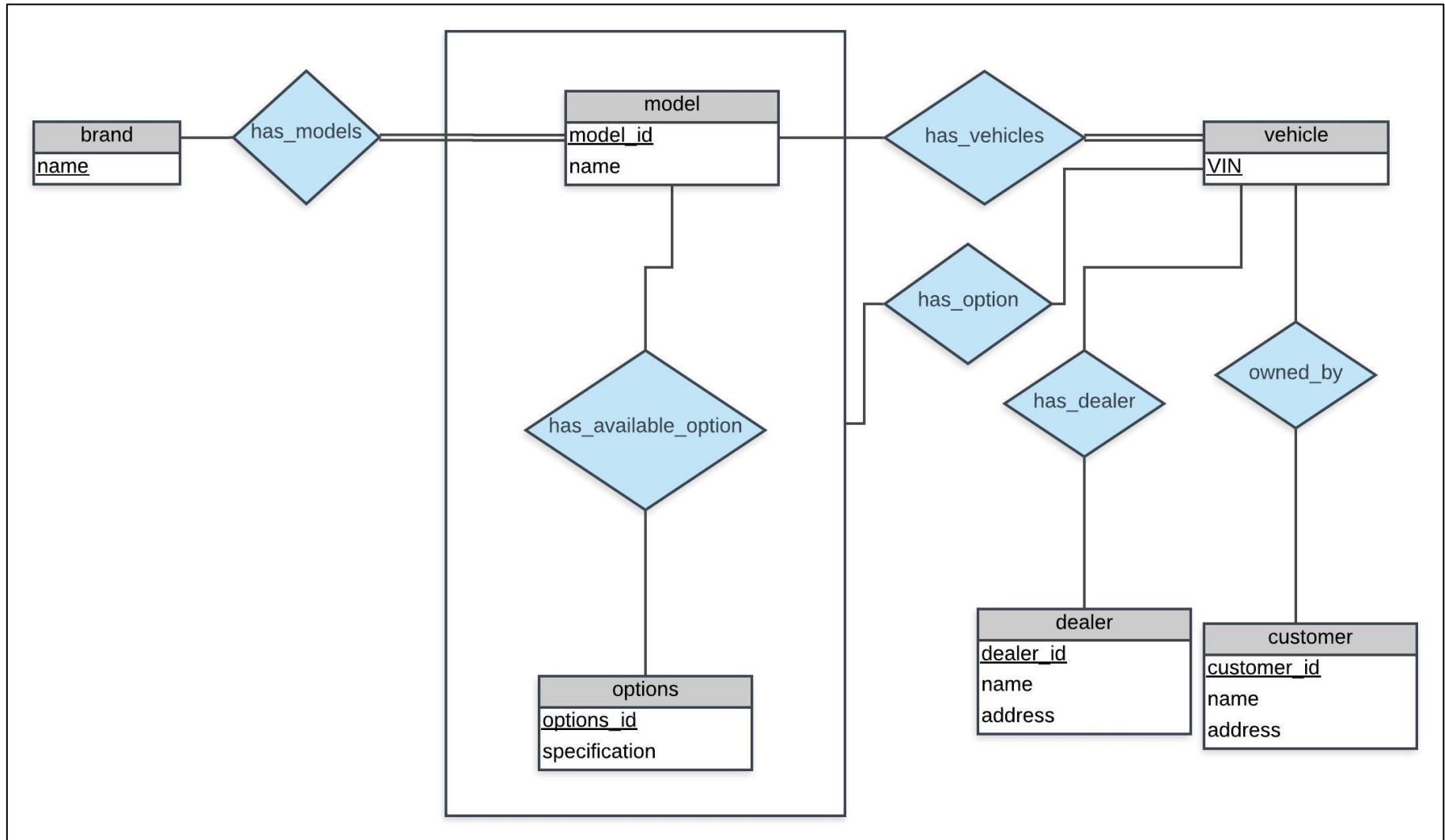- **Define total and partial participation in the relationships**

- Read carefully the requirements document

- Define entity sets that contain all data objects that you need. Define attributes and a primary key for each entity set

- Define relationships between entities that reflect the requirements completely

- Define total and partial participation in the relationships

- **Improve your design: eliminate redundancy, correct errors, etc**

- **Improve your design: eliminate redundancy, correct errors, etc**

Part 2

- Read carefully the requirements document

- Define entity sets that contain all data objects that you need. Define attributes and a primary key for each entity set

- Define relationships between entities that reflect the requirements completely

- Define total and partial participation in the relationships

- Improve your design: eliminate redundancy, correct errors, etc

Requirement Document

Design an E-R Diagram for a worldwide package delivery company (e.g., DHL or FedEx). The ER must be able to keep track of customers who ship items and customers who receive items; some customers may do both.

Each package must be identifiable and trackable, so the E-R must be able to store the place (location) of the package and its set of locations.
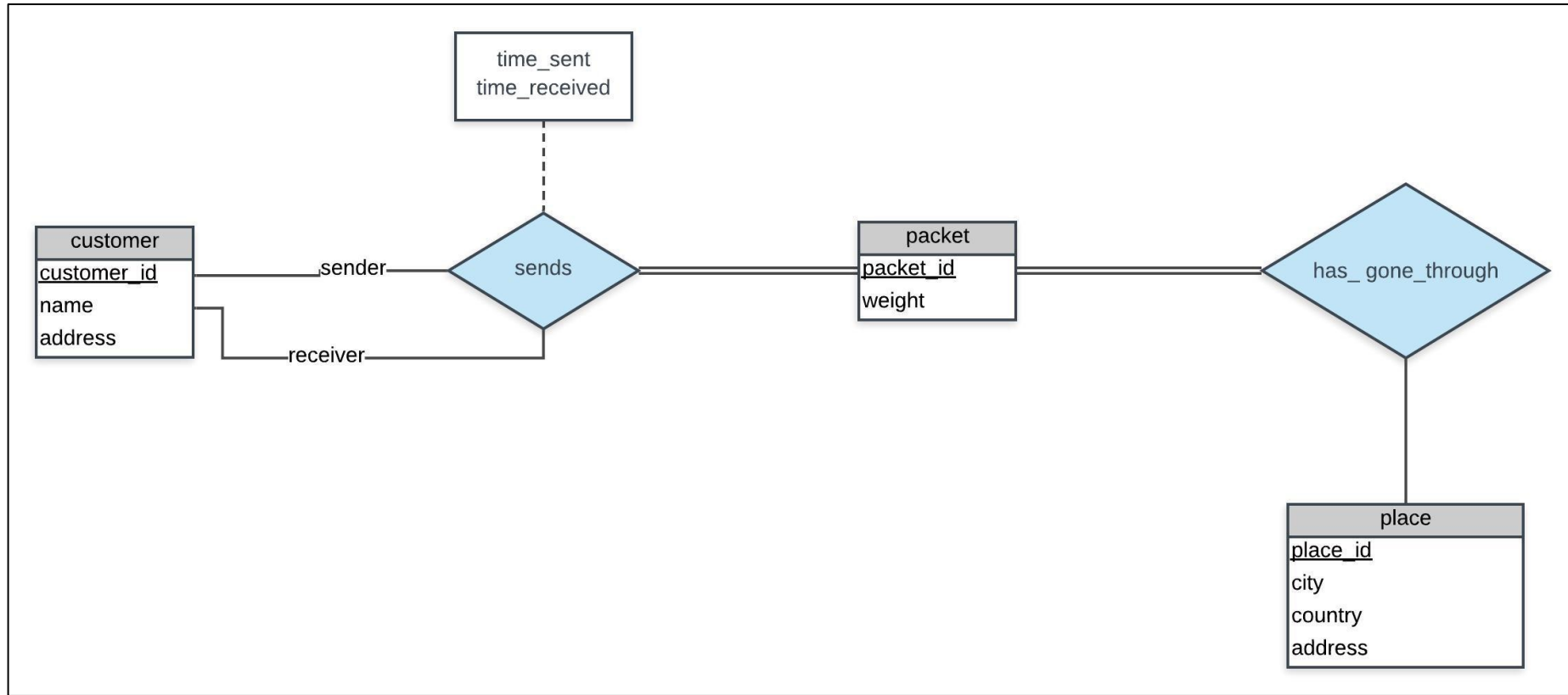
Lab Assignment
Answer the following question: What does this diagram enforce and what it does not enforce in relationships between package, sender and receiver?