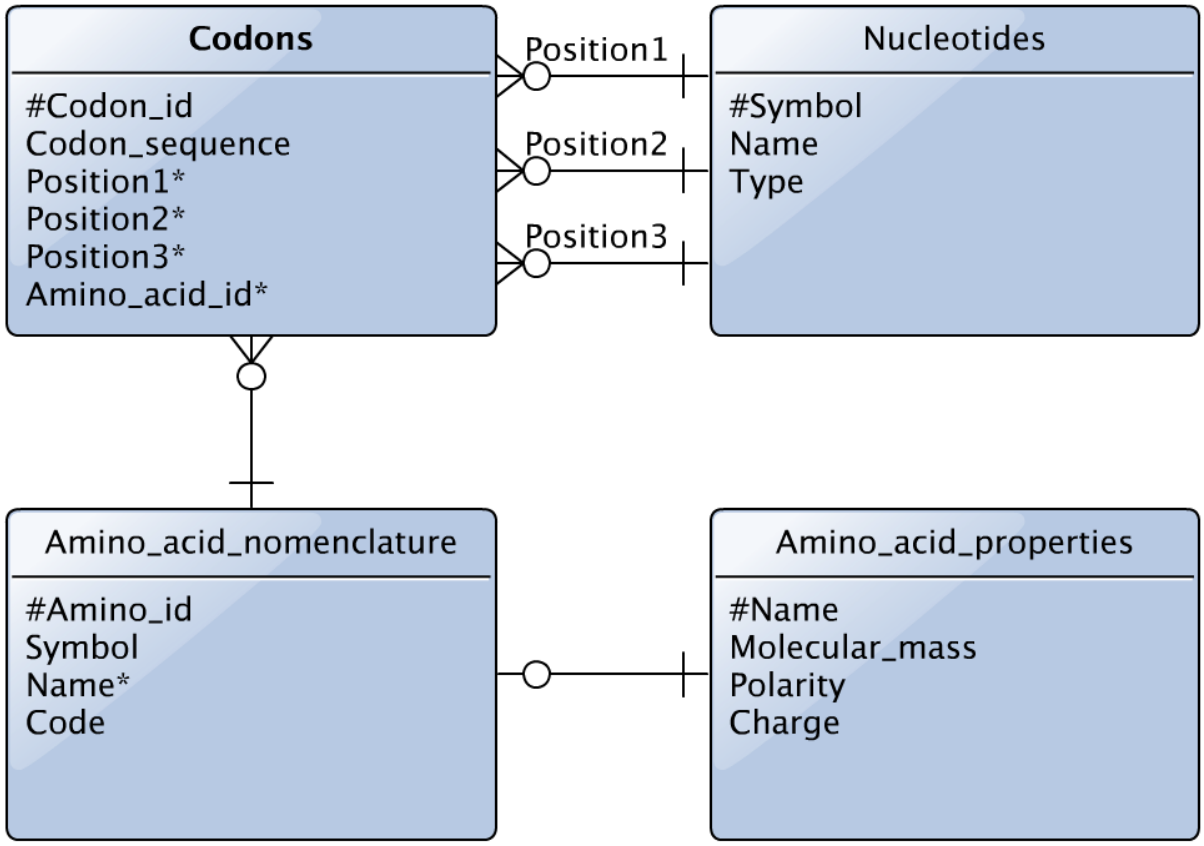
INF115 – Compulsory exercise 2

Exercise 1



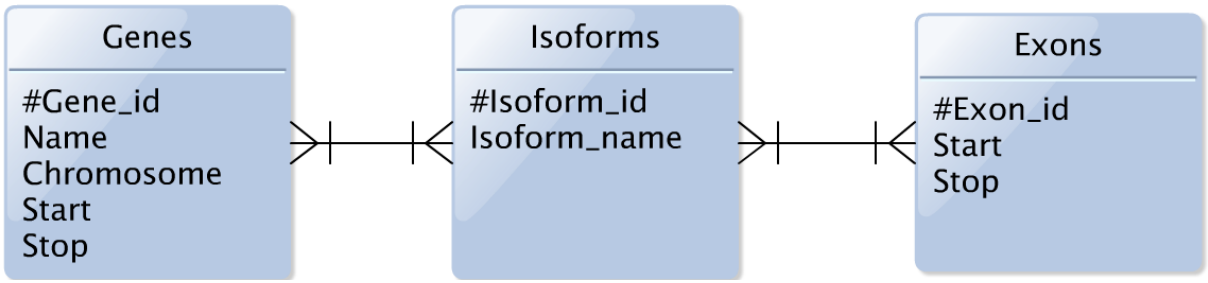
Exercise 2

2.1

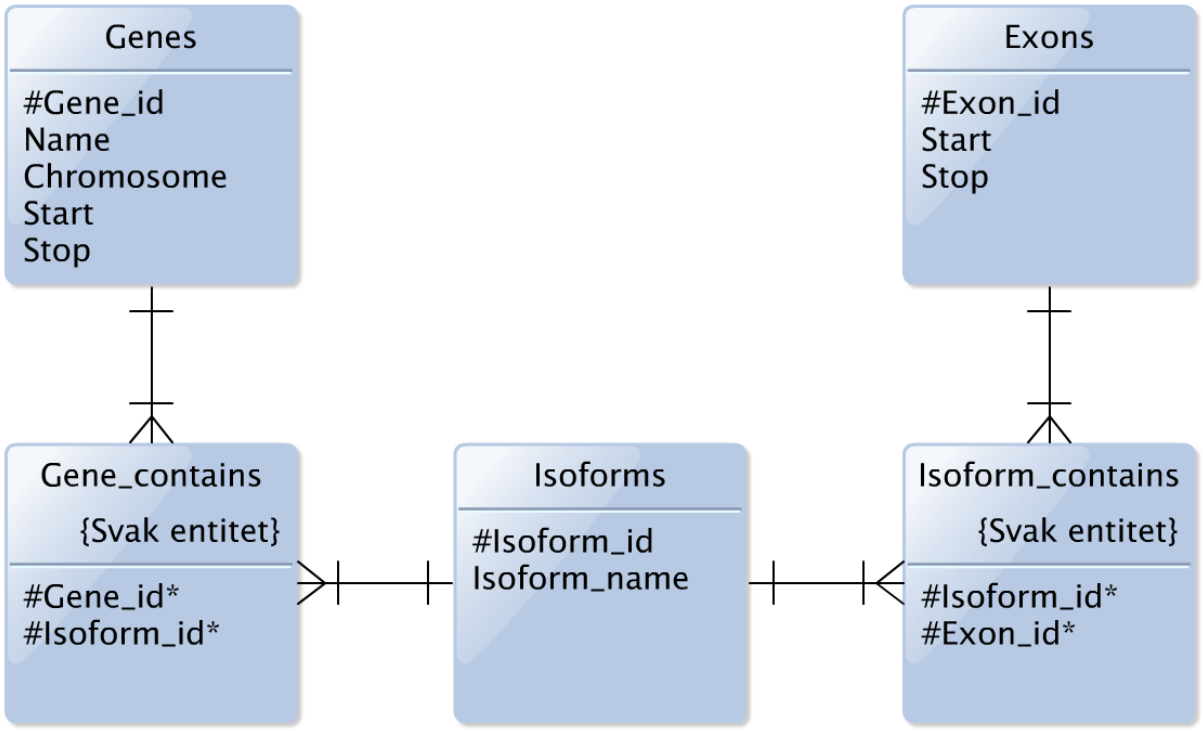
The entities are:

- Genes
- Isoforms
- Exons

2.2



2.3



Exercise 3

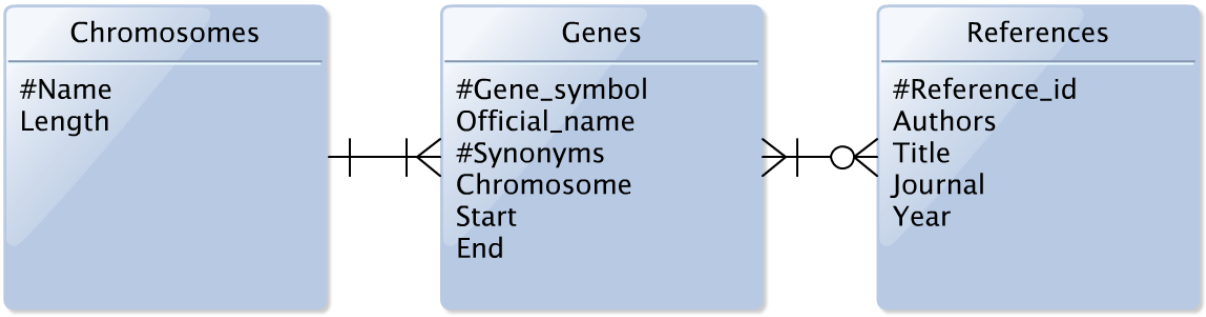
3.1

The entities are:

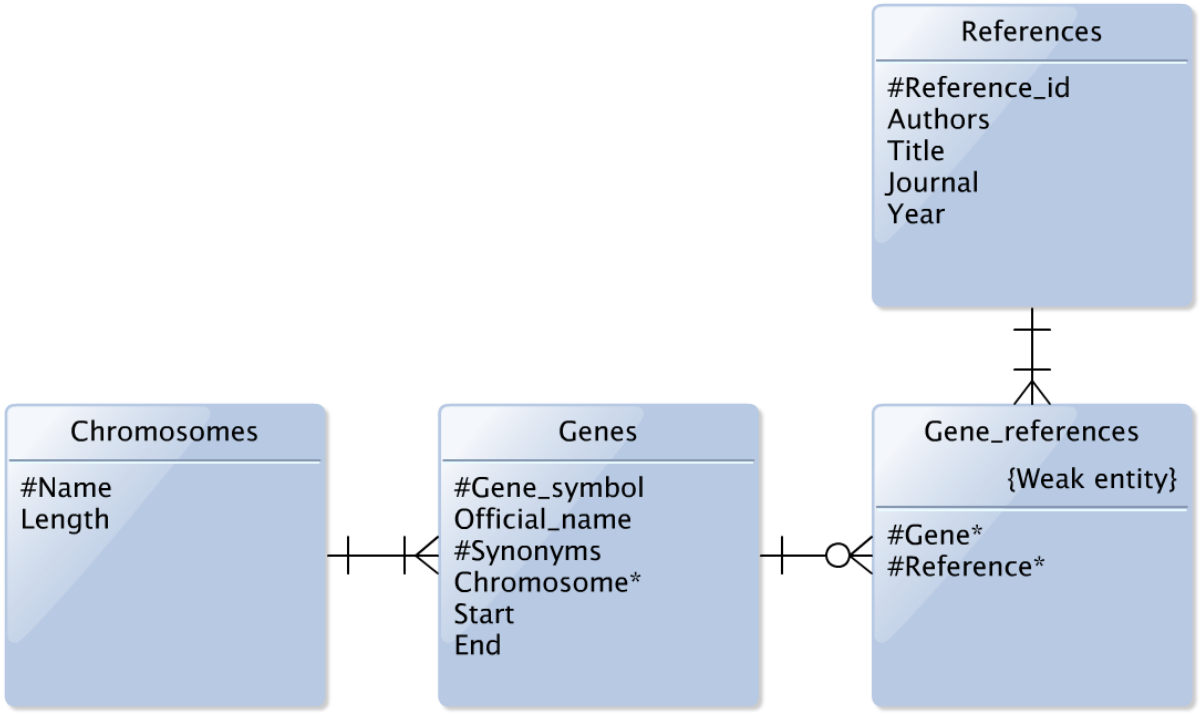
- Genes
- References
- Chromosomes

(Chromosomes could be omitted.)

3.2



3.3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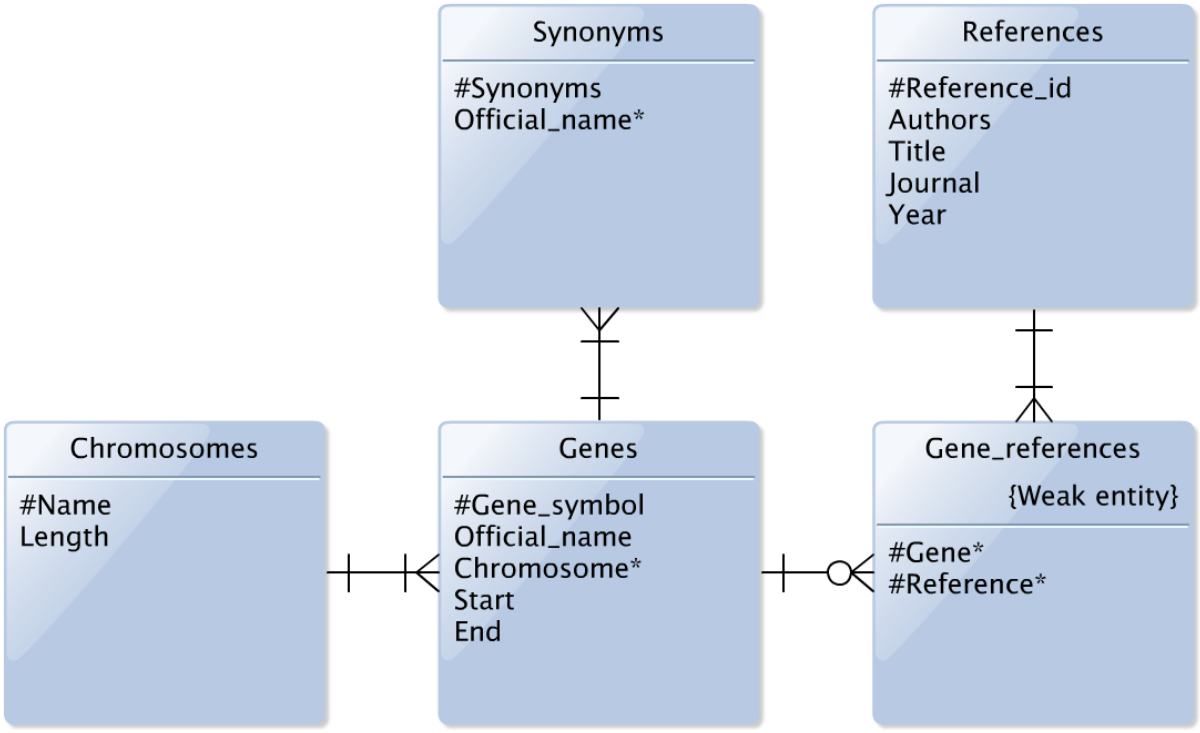
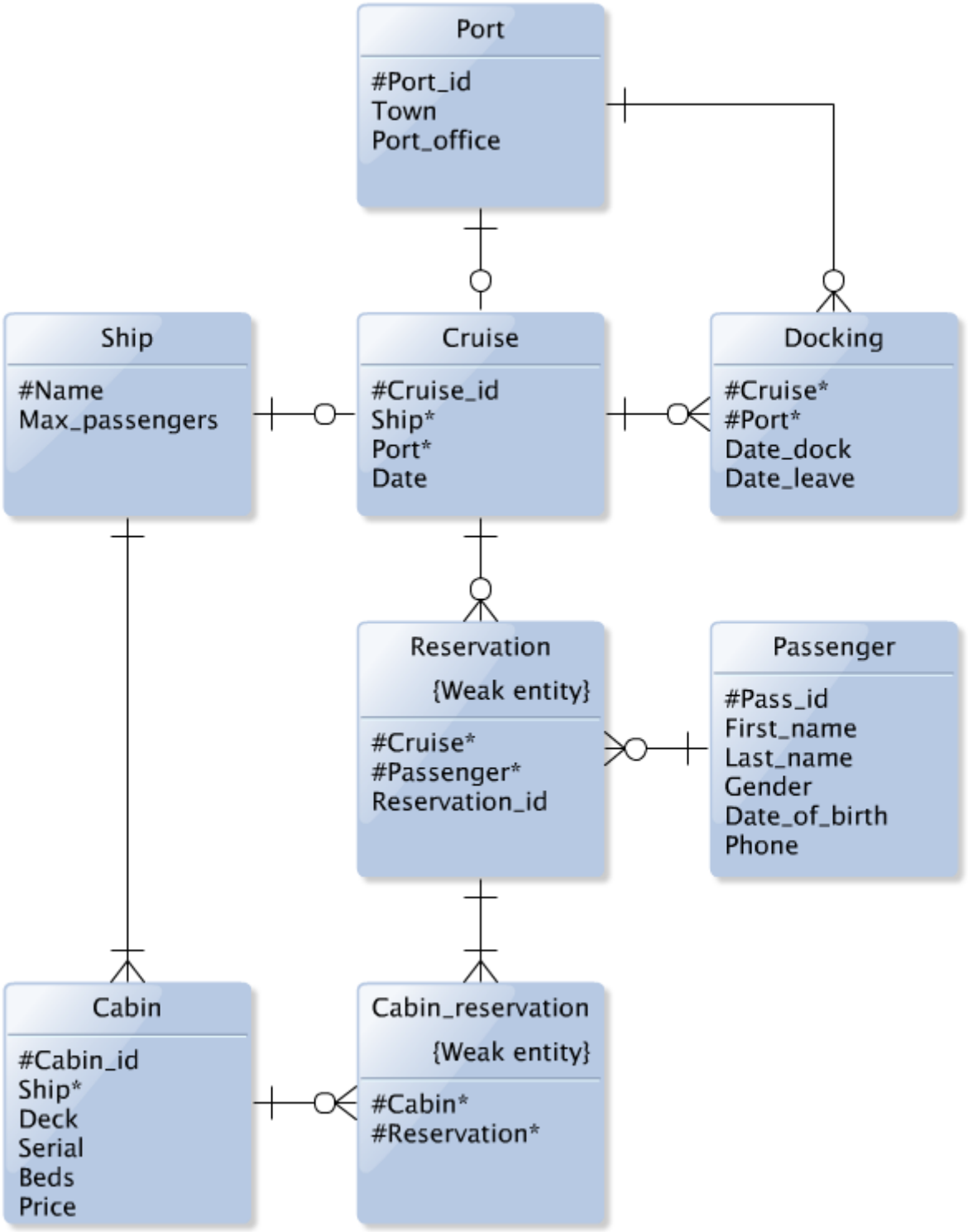
Authors
Title
Journal
Year
Chromosomes
#Name
Length
Genes
#Gene_symbol
Official_name
#Synonyms
Chromosome*
Start
End
Gene_references
{Weak entity}
#Gene*
#Reference*

3.4


Synonyms
#Synonyms
Official_name*
References
#Reference_id
Authors
Title
Journal
Year
Chromosomes
#Name
Length
Genes
#Gene_symbol
Official_name
Chromosome*
Start
End
Gene_references
{Weak entity}
#Gene*
#Reference*

Exercise 4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Port_office
Ship
#Name
Max_passengers
Cruise
#Cruise_id
Ship*
Port*
Date
Docking
#Cruise*
#Port*
Date_dock
Date_leave
Reservation
{Weak entity}
#Cruise*
#Passenger*
Reservation_id
Passenger
#Pass_id
First_name
Last_name
Gender
Date_of_birth
Phone
Cabin
#Cabin_id
Ship*
Deck
Serial
Beds
Price
Cabin_reservation
{Weak entity}
#Cabin*
#Reservation*

Exercise 5

5.1

Assuming trucks will have more than one assignment each, this design will duplicate the truck information every time the truck gets a new assignment. This will take up unnecessary space and make editing of truck values complicated.

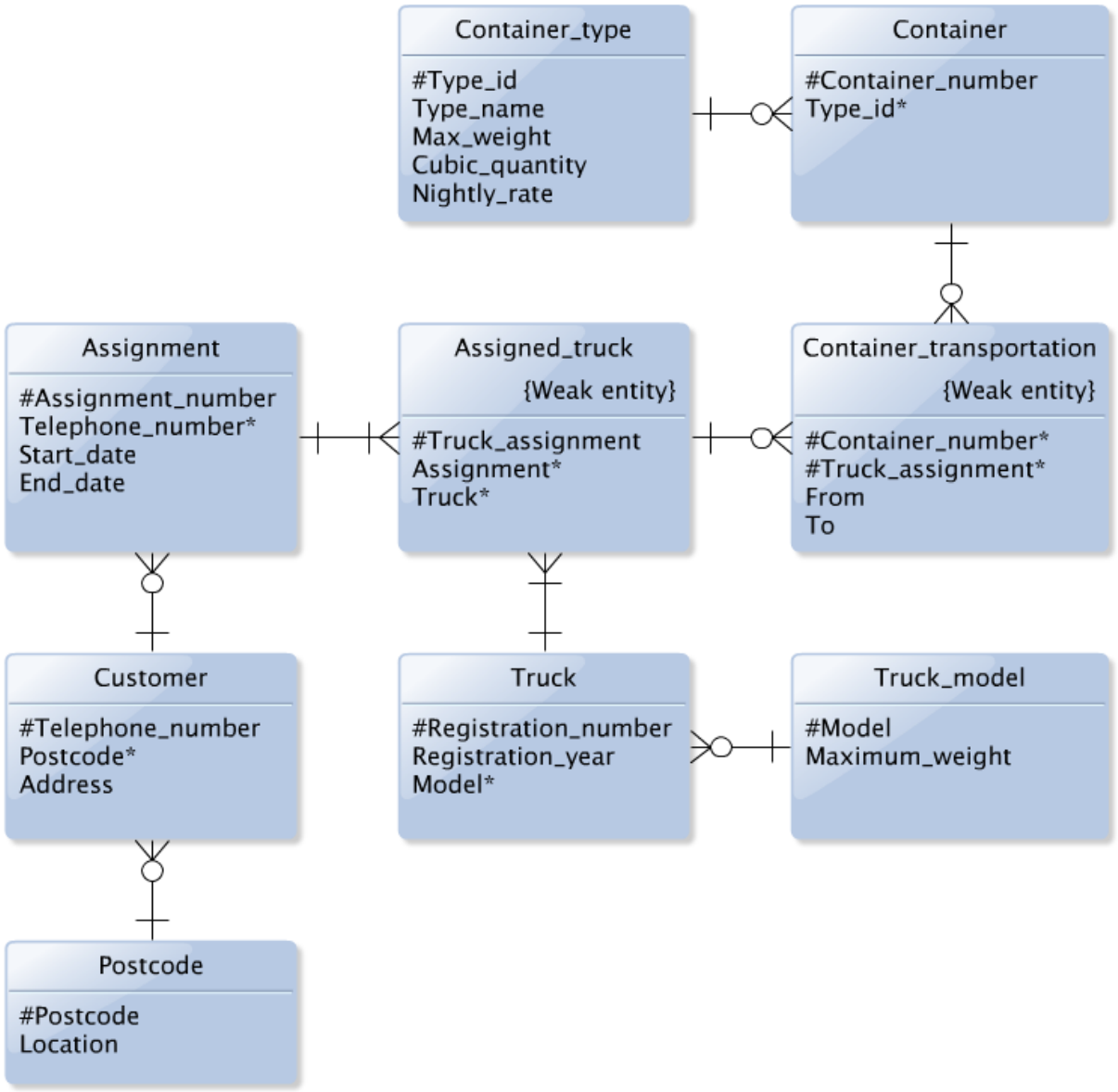
5.2

Registration_number → Registration_year, Model, Maximum_weight
Model → Maximum_weight

5.3

Candidate key:
(Registration_number, Assignment_number)

5.4



(Note: Container_transportation is added in the event that one truck can move more than one container per assignment.)