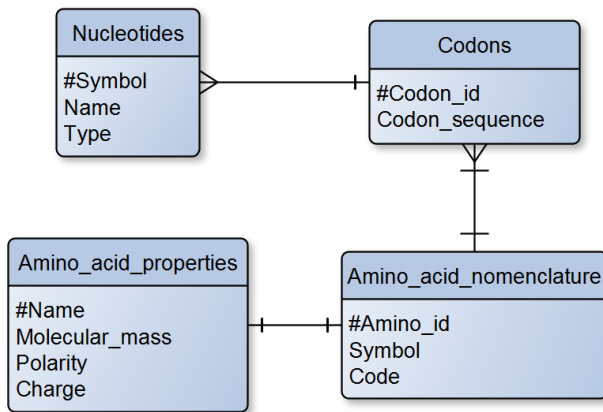


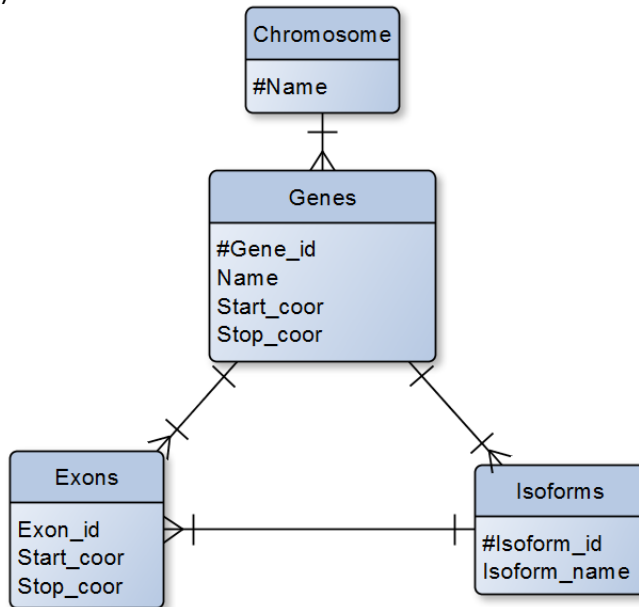
1.



2.

i) The entities are Genes, Exons, Isoforms and Chromosome.

ii)



iii)

Chromosome(#Name)

Genes(#Gene_id, Name, Chromosome_name, Start_coors, Stop_coors)

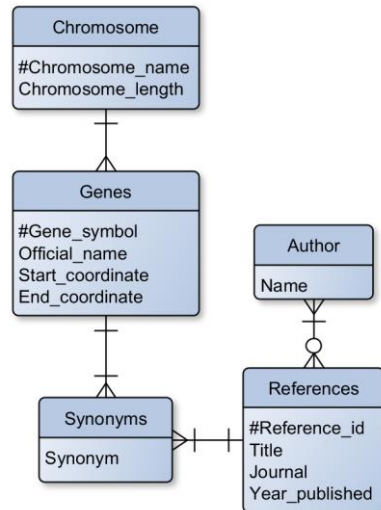
Isoforms(#Isoform_id, Isoform_name, Gene_id*)

Exons(Exon_id, Start_coors, Stop_coors, Isoform_id*, Gene_id*)

3.

i) Genes, chromosomes, synonyms, authors and references.

ii)



iii)

Genes(#Gene_symbol, Official_name, Chromosome_name, Chromosome_length, Start_coordinate, End_coordinate)

Synonyms(Synonym, Gene_symbol*, Reference_id*)

References(#Reference_id, Authors, Title, Journal, Year_Published)

iv)

Chromosome(#Chromosome_name, Chromosome_length)

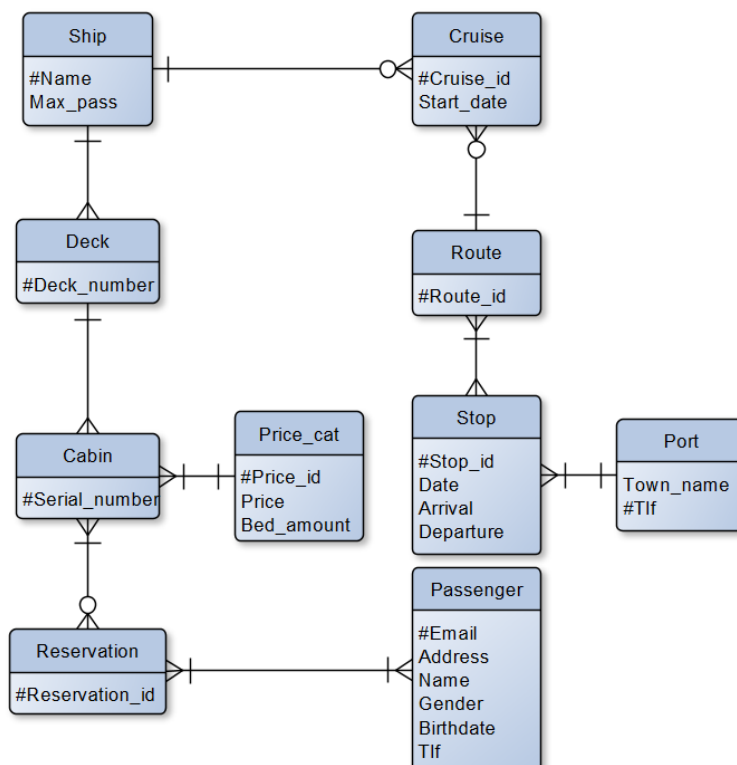
Genes(#Gene_symbol, Official_name, Chromosome_name*, Start_coordinate, End_coordinate)

Synonyms(#Synonym, Gene_symbol*)

References(#Reference_id, Title, Journal, Year_Published)

Authors(Name, Reference_id*)

4.



5.

i) The truck table is problematic because it has a set assignment number, which makes it difficult to reassign. It also specifies both the truck model and the maximum weight for the model, which should be specified in a new table. In addition, the truck should assign the Registration_number as a primary key.

ii) Model → Maximum_weight and Registration_number → Registration_year are functionally dependent.

iii) The only candidate key is the Registration_number.

iv)

Container_type (#Type_id, Type_name, Max_weight, Cubic_quantity, Nightly_rate)

Container (#Container_number, Type_id*)

Customer (#Telephone_number, Address)

Assignment (#Assignment_number, Telephone_number*, Container_number*, Start_date, End_date)

Transportation(Assignment_Number*, Registration_number*)

Truck (#Registration_number, Registration_year, Model*)

TruckModel(#Model, Maximum_weight)