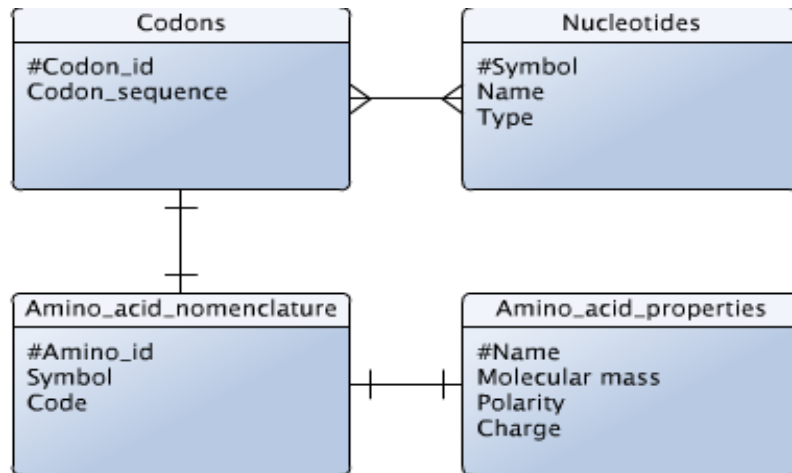


Compulsory exercise 2

Task 1

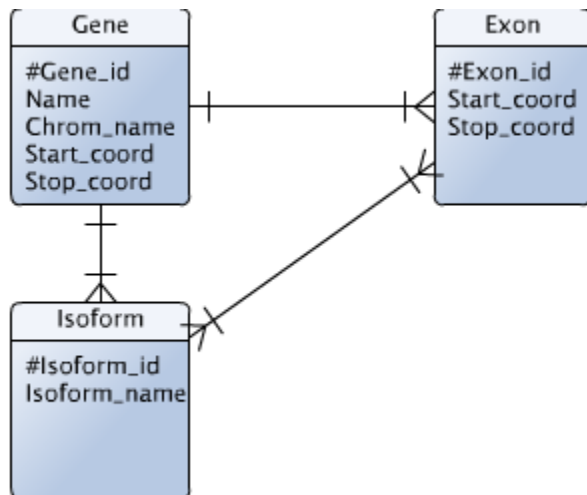


Task 2

i)

The entities are gene, exon and isoform.

ii)



iii)

Gene(#Gene_id, Name, Chrom_name, Start_coord, Stop_coord)

Exon(#Exon_id, Start_coord, Stop_coord, Gene_id*)

Isoform(#Isoform_id, Isoform_name, Gene_id*)

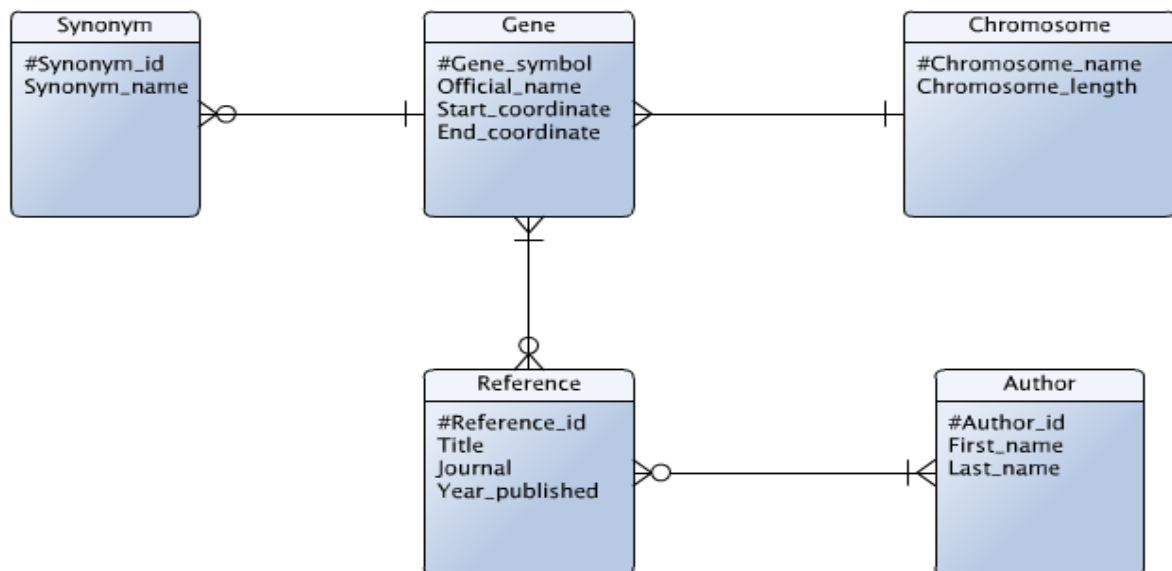
Exon_isoform_connection(#Exon_id*, #Isoform_id*)

Task 3

i)

Chromosome, Gene, Author, Reference and Synonym

ii)



iii)

Chromosome(#Chromosome_name, Chromosome_length)

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

Synonym(#Synonym_id, Synonym_name, Gene_symbol*)

Reference(#Reference_id, Title, Journal)

Gene_reference(#Gene_symbol*, #Reference_id*)

Author(#Author_id, First_name, Last_name)

Reference_author(#Reference_id*, #Author_id*, Year_published)

iv)

Chromosome(#Chromosome_name, Chromosome_length)

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

Synonym(#Synonym_id, Synonym_name, Gene_symbol*)

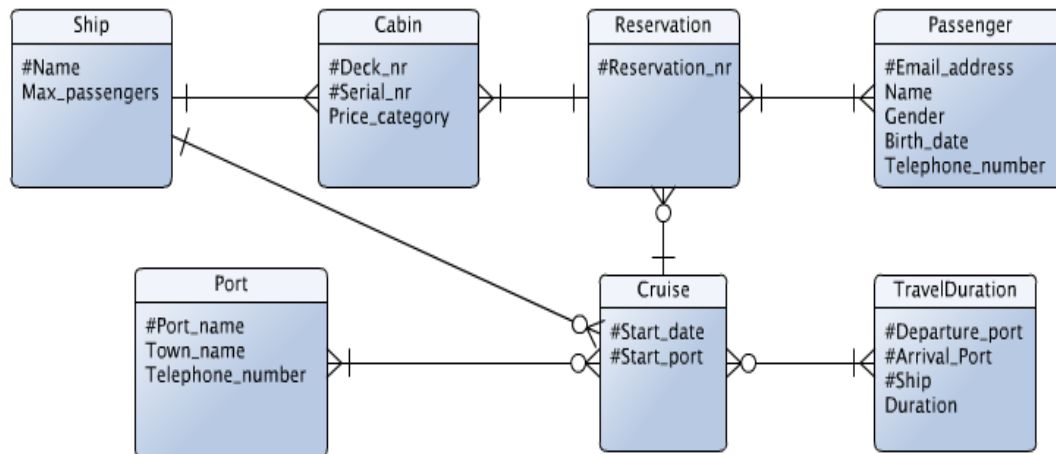
Reference(#Reference_id, Title, Journal, Year_published)

Gene_reference(#Gene_symbol*, #Reference_id*)

Author(#Author_id, First_name, Last_name)

Reference_author(#Reference_id*, #Author_id*)

Task 4



Task 5

i)

When a truck is assigned to more than one assignment, only the Assignment_number column in the Truck table will be different for assignments using the same truck. All the information about the truck itself will be repeated for every assignment it is assigned to.

ii)

Registration_number -> Registration_year, Model, Maximum_weight

Model -> Maximum_weight

iii)

The candidate key is Registration_number. This is the only attribute that is unique for each truck.

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)

Truck_assignment(#Assignment_number*, #Registration_number*)

Truck (#Registration_number, Registration_year, Model*)

Truck_weight(#Model, Maximum_weight)