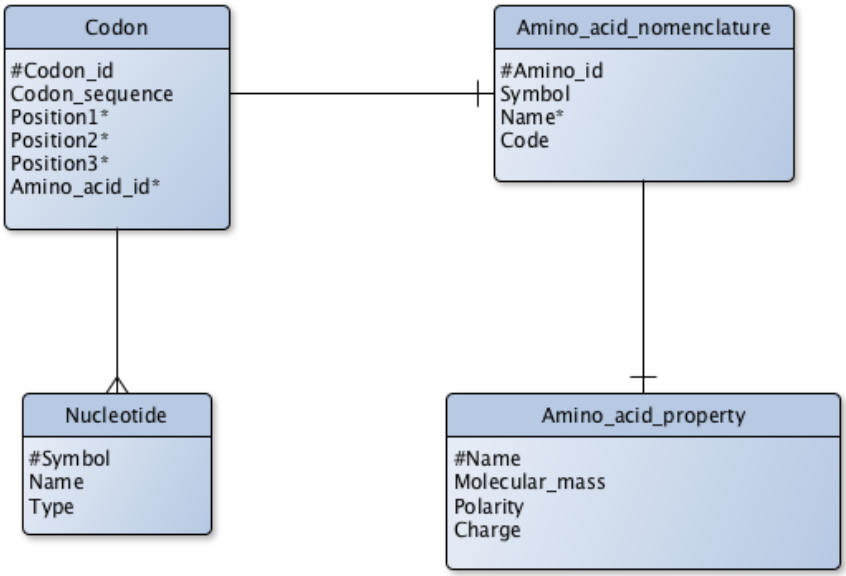
INF115 Compulsory Exercise 2
Even Brenna — ebr070

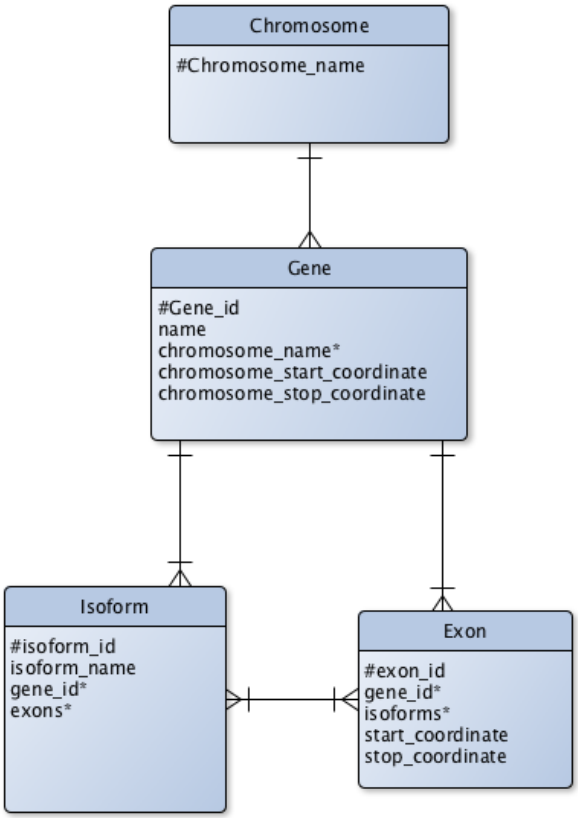
1)



2)

I. Entities: Chromosome, Gene, Exon and Isoform.

II.

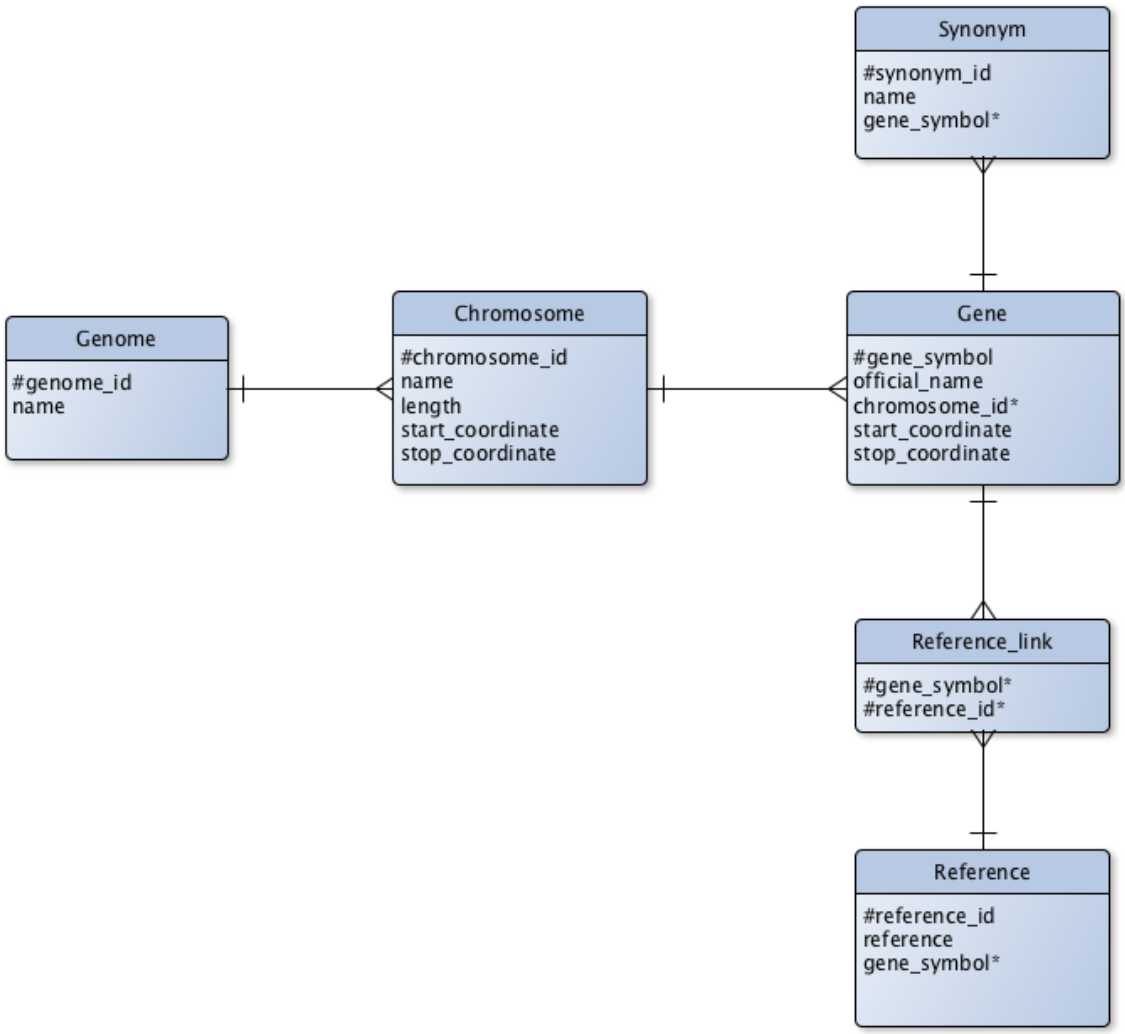


III. Chromosomes(#Chromosome_name)
Genes(#Gene_id, name, chromosome_name*, start_coordinate, stop_coordinate)
Isoforms(#Isoform_id, isoform_name, gene_id*, exons*)
Exons(#exon_id, gene_id*, isoforms*, start_coordinate, stop_coordinate)

3)

I. Entities: Genome, Chromosome, Gene, Synonym, Referencelink, Reference

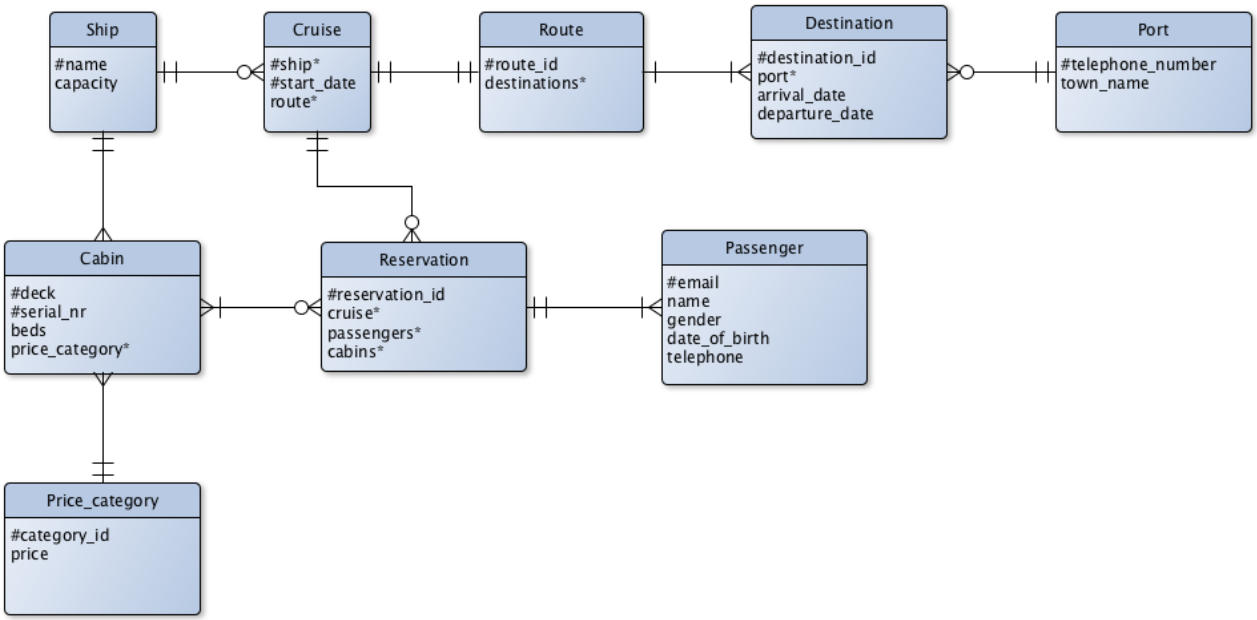
II.



III. Genome(#genome_id, name)
Chromosome(#chromosome_id, name, length, start_coordinate, stop_coordinate)
Gene(#gene_symbol, official_name, chromosome_id*, start_coordinate, stop_coordinate)
Reference_link(#gene_symbol*, #reference_id*)
Reference(#reference_id, reference, gene_symbol*)
Synonym(#synonym_id, name, gene_symbol*)

IV.

4)



5)

I. The truck table should not have the Assignment_number property, since this means that a Truck must be updated every time it gets a new assignment, and the history of which truck was assigned to which assignments would be lost. A better solution would be to have a foreign key for each truck used in an assignment in the Assignments table.

II. Registration_number —> Registration_year, Model, Maximum_weight, Assignment_number
Model —> Maximum_weight

"—>" means "determines", so the properties on the right are functionally dependent on the property on the left.

III. Registration_number is the only candidate key

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 (Registration_number, Registration_year, Model_name*, Assignment_number*)
Truck_model(#Model_name, Maximum_weight)