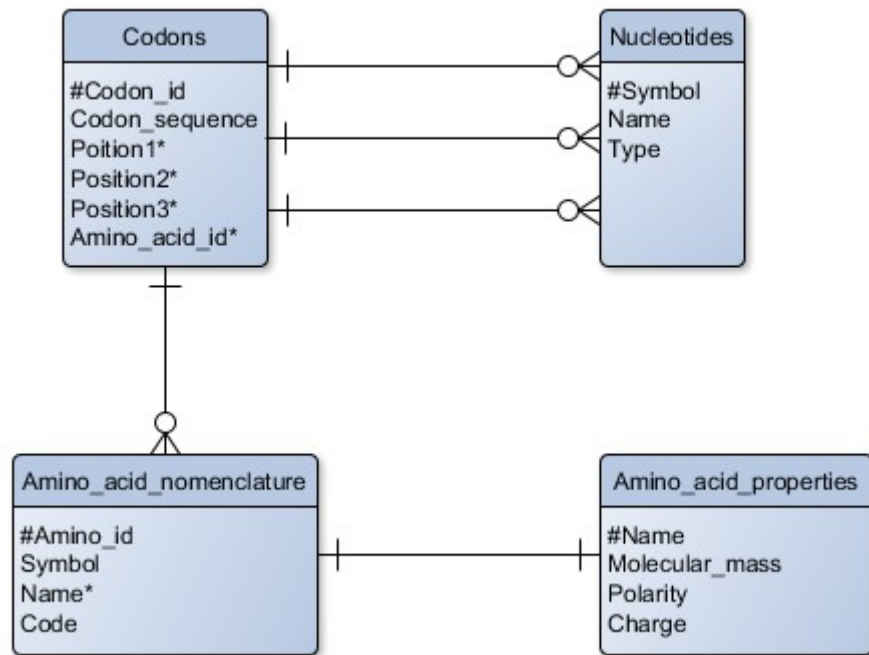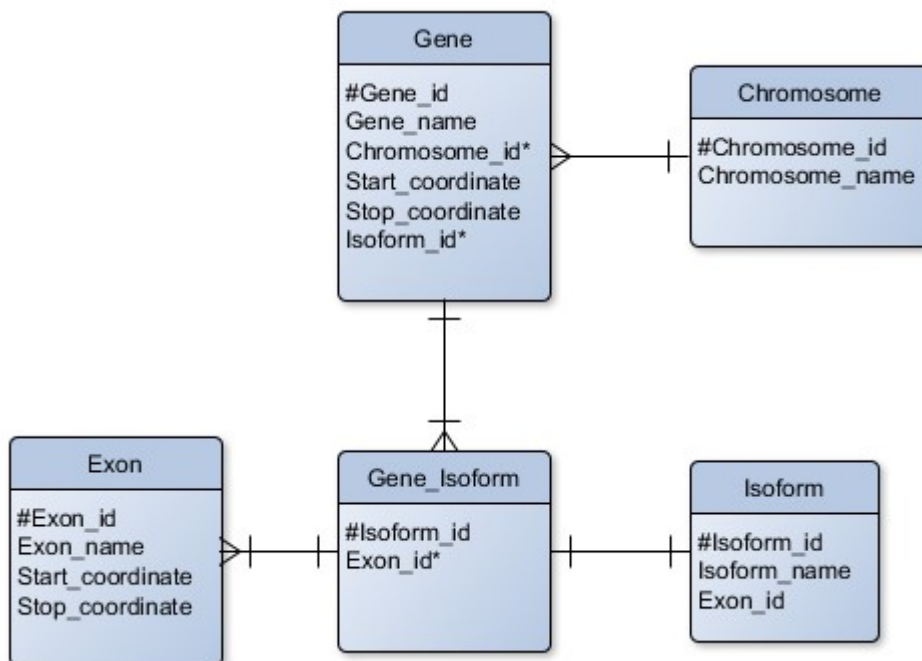Exercise 1

Exercise 2

i) Gene, Exons, Isoforms and Chromosomes are entities. Chromosomes could just be a column
   in Gene but its cleaner to have a separate table.
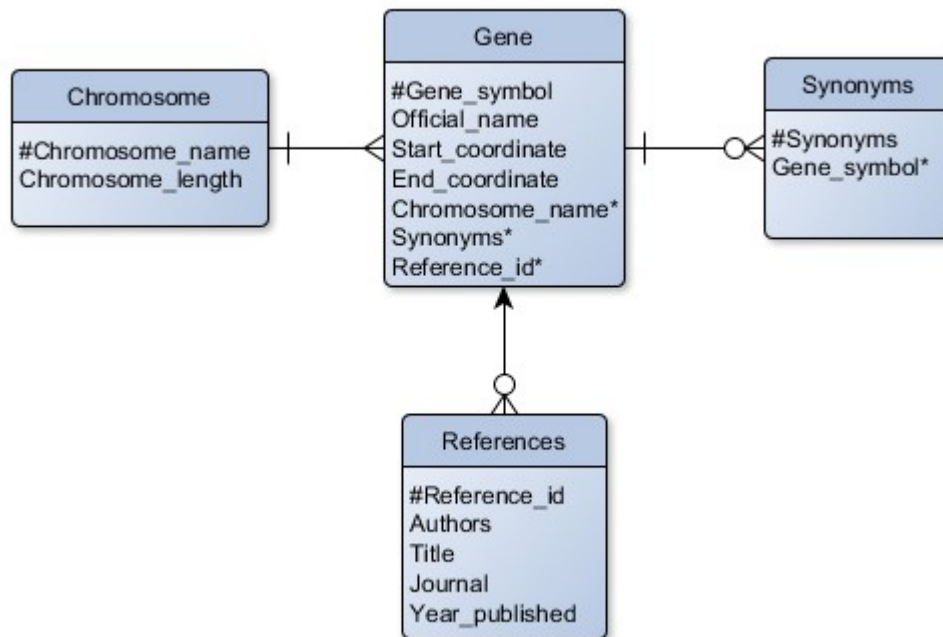ii) Diagram from i)

iii) Same as in ii) Can get exon's of a Gene through Gene_isoform and can get a name of a
     Isoform through gene_isoform.

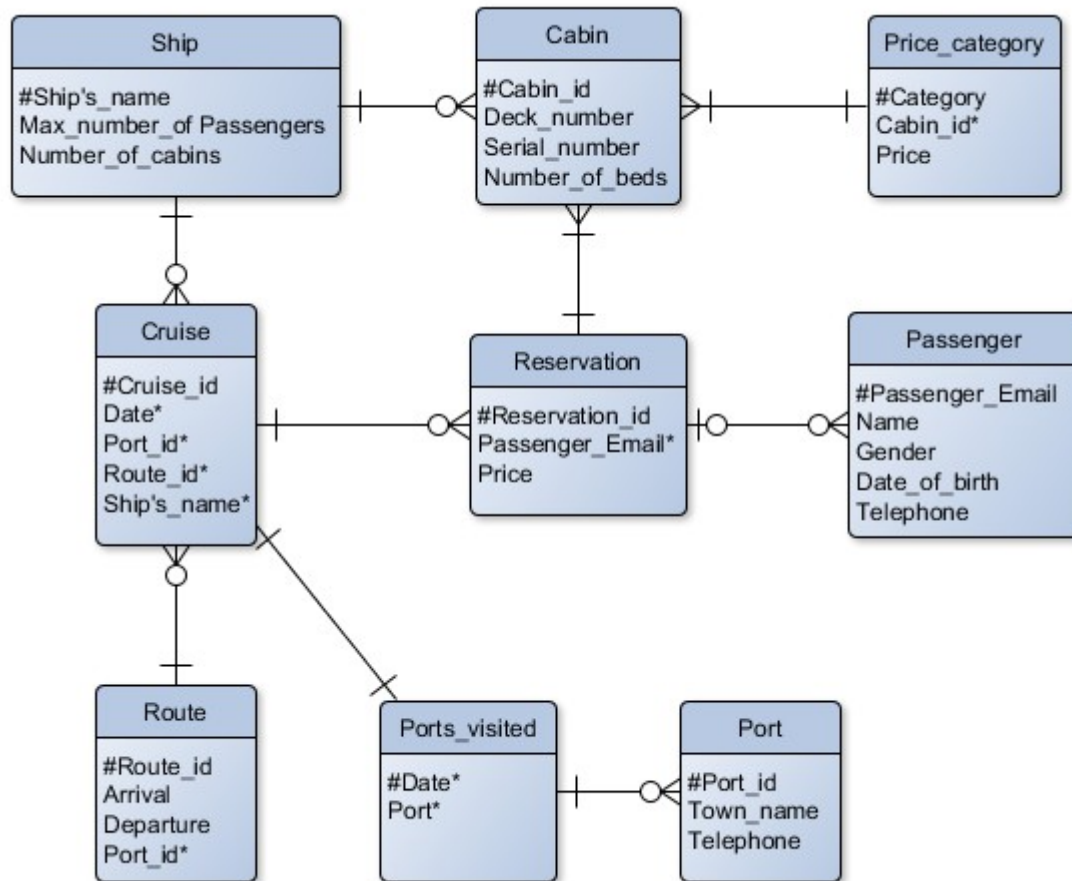Exercise 3
I) References, Chromosomes, Genes and Synonyms.
ii)

iii)

        GENE_table_1(#Gene_Symbol, Official_name, Synonyms, References_id*)
        GENE_table_2(#Gene_symbol, Chromosome_name*, Start_coordinate, End_coordinate)
        Chromosome (#Chromosome_name, Chromosome_length)
        References(#Reference_id, Authors, Title, Journal, Year_published)

iv)

        GENE_table_1(#Gene_Symbol, Official_name, References_id*)
        GENE_table_2(#Gene_symbol, Chromosome_name*, Start_coordinate, End_coordinate)
        Synonyms(#Synonyms, Gene_symbol*)
        Chromosome (#Chromosome_name, Chromosome_length)
        References_1(#Reference_id, Authors)
        References_3(#Reference_id, Journal, Year_published)

Exercise 4

Ship
#Ship's_name
Max_number_of Passengers
Number_of_cabins

Cabin
#Cabin_id
Deck_number
Serial_number
Number_of_beds

Price_category
#Category
Cabin_id*
Price

Cruise
#Cruise_id
Date*
Port_id*
Route_id*
Ship's_name*

Reservation
#Reservation_id
Passenger_Email*
Price

Passenger
#Passenger_Email
Name
Gender
Date_of_birth
Telephone

Route
#Route_id
Arrival
Departure
Port_id*

Ports_visited
#Date*
Port*

Port
#Port_id
Town_name
Telephone

Exercise 5
- I) Truck has no primary key. Could also split up the table such that every time assignment is changed we don't have to also write unnecessary data about the truck like registration year. Primary key here could be registration number.
- II) Maximum weight is dependant on model.
  (Assignment could depend on trucks max carry weight compared to how much the container weights. However its not immediately a functional dependency here because you can tell for sure.)
- III) Candidate key is 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)
  Truck(#Registration_number, registration_year, model*, Assignment_number)
  Truck(#Model, maximum_weight)