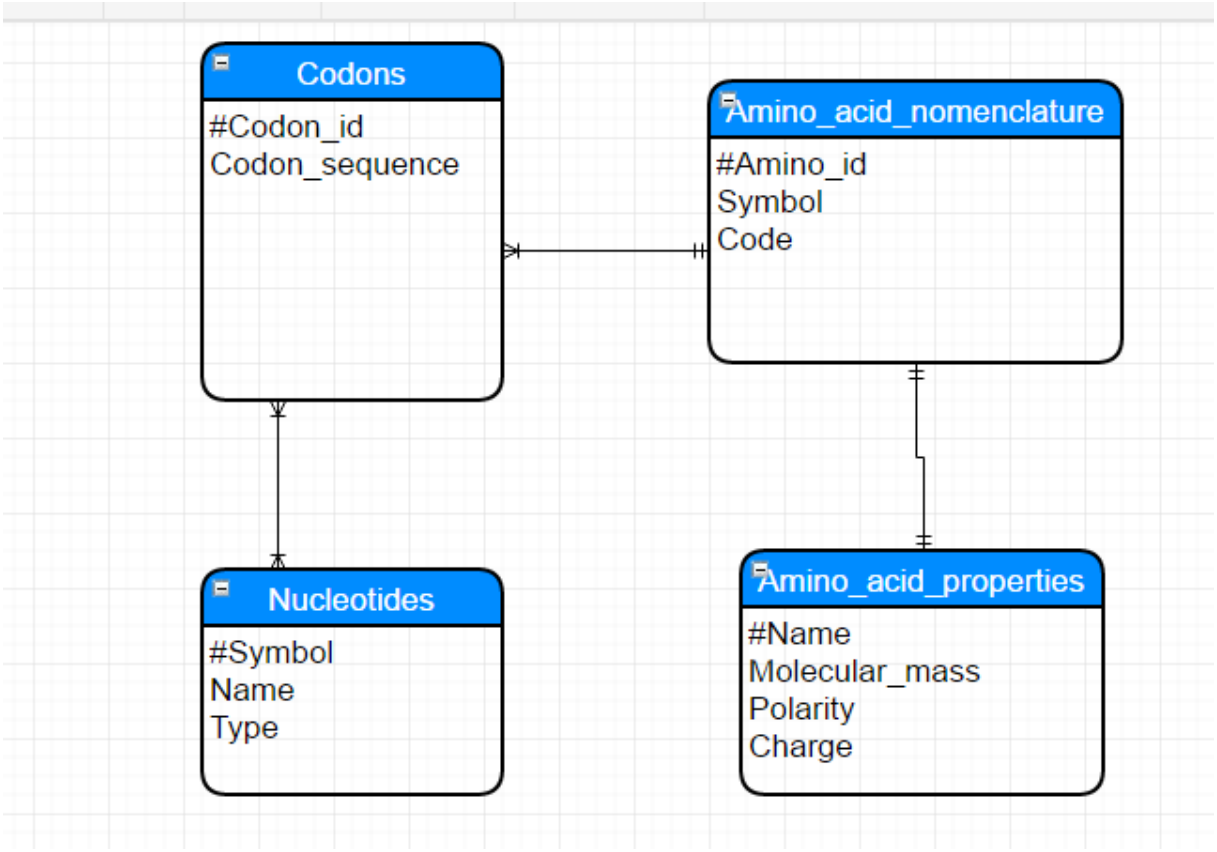
1)

Har valgt å gjøre oppgaven slik. En Codon består av flere nucleotides, og en nucleotide kan oppstå i flere codons.



2 i)

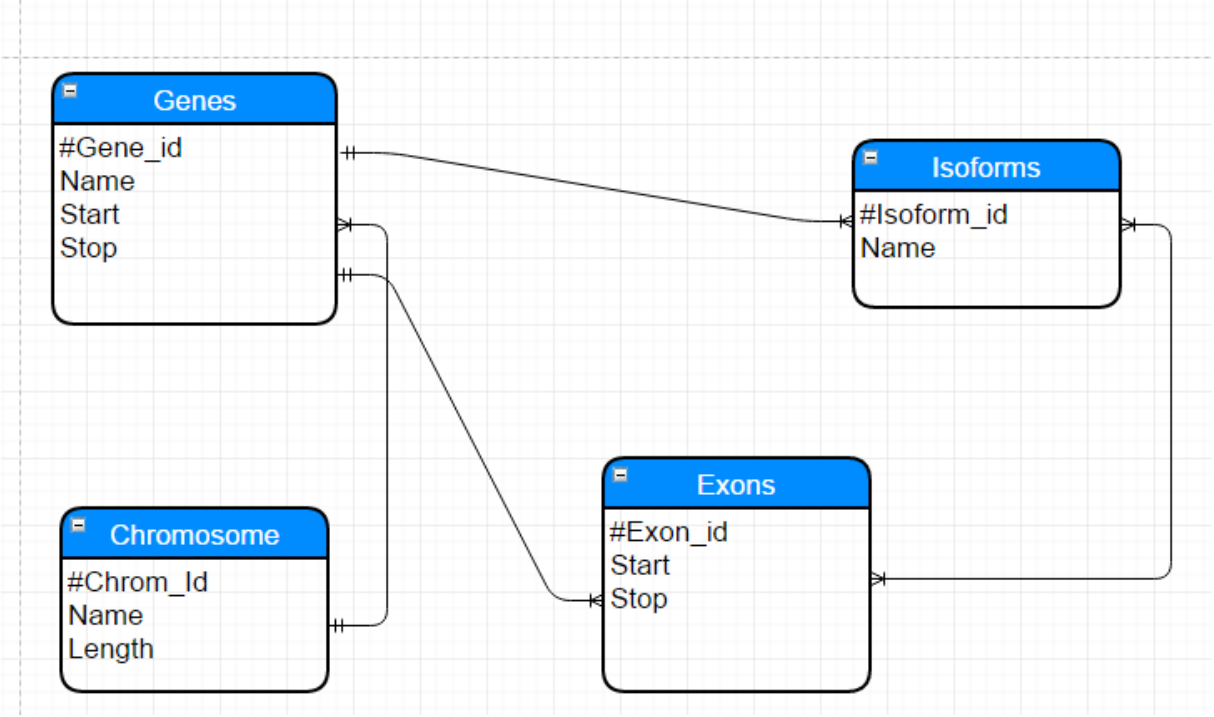
Genes

Chromosome

Exons

Isoform

ii)



iii)

Genes(#Gene_Id,Name,Chrom_Id*,Gene_Start,Gene_Stop)

Chromosome(#Chrom_Id,Name,Length)

Exons(#Exons_Id, Start, Stop, Gene_Id*)

Exons_Contains_Isoform (#Exons_Id*, #Isoform_Id*)

Isoform(#Isoform_Id,Name,Gene_Id*)

3

i)

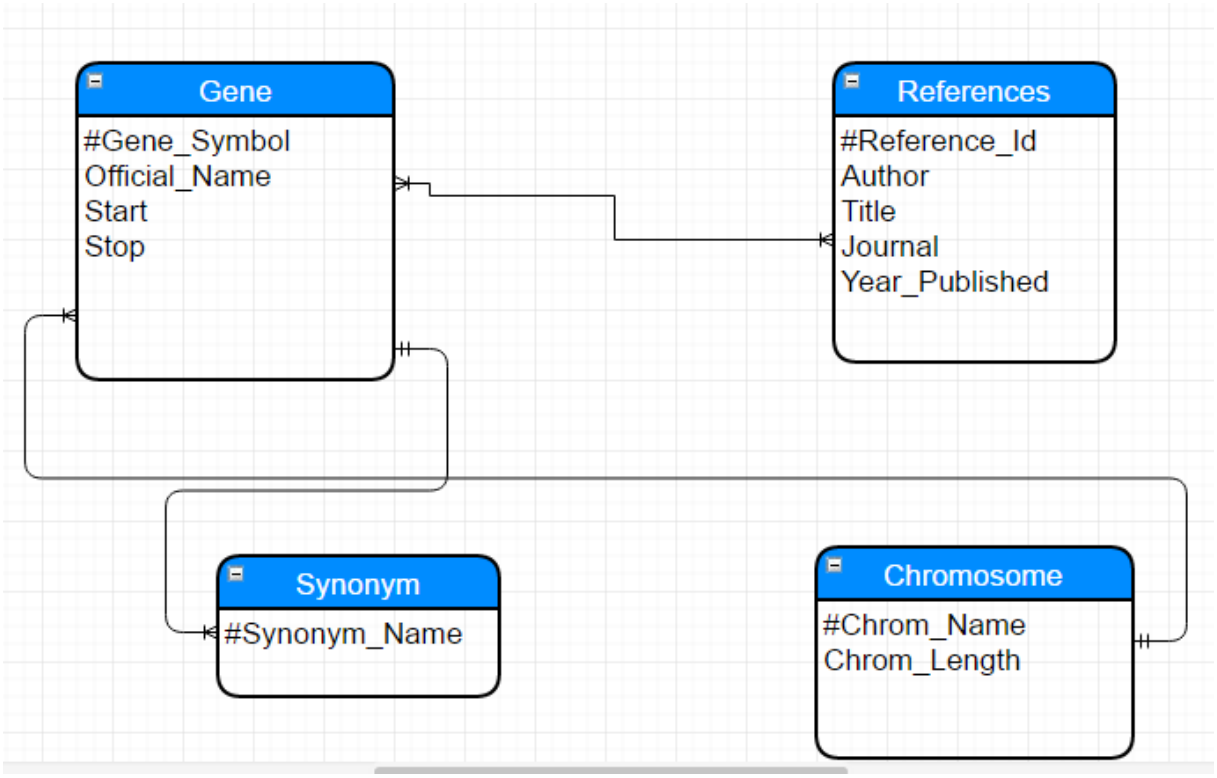
Genes

Synonyms

Chromosome

References

ii)



iii)

Genes (#Gene_Symbol, #Chrom_Name, #Synonym_Name, #Reference_Id, Synonym_Name, Author, Official_Name,Gene_Start, Gene_Stop, Chrom_Length, Title, Journal, Year_Published)

iv)

Genes (#Gene_Symbol, Official_Name, Start, Stop, Chrom_Name*)

Synonym (#Synonym_Name, Gene_Symbol*)

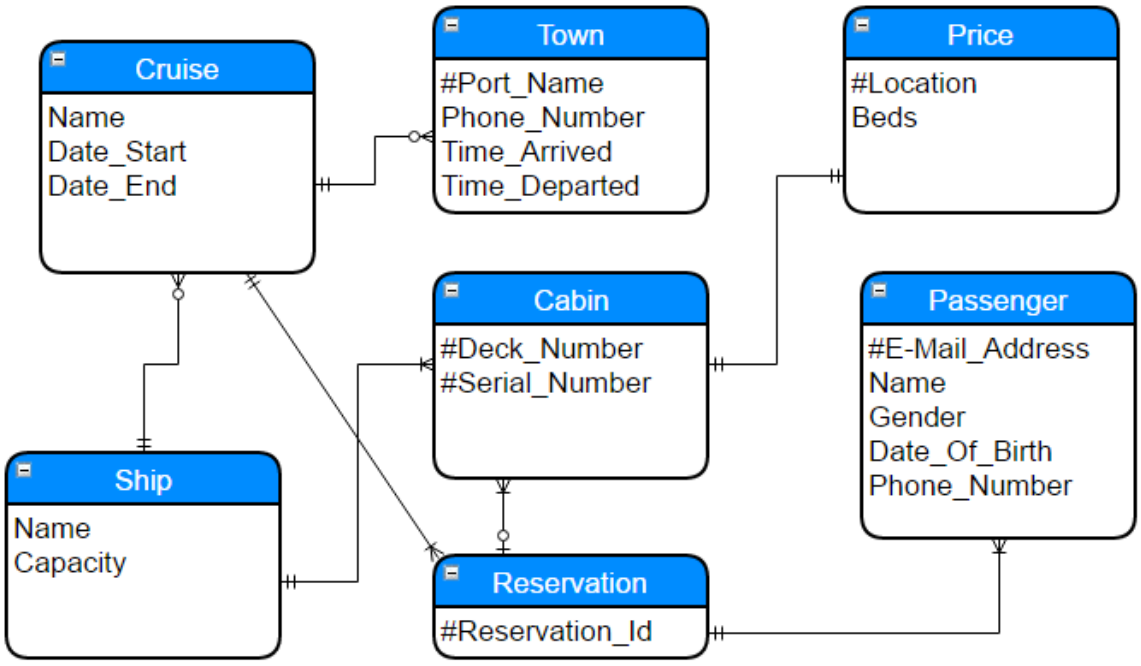
References(#Reference_Id, Title, Author, Journal, Year_Published)

Gene_Reference(#Reference_Id, #Gene_Symbol)

Chromosome (#Chrom_Name, Chrom_Length)

4)

Har tolket oppgaven som at en town har kun en port. Et Cruise reiser ikke uten reservasjoner. I så fall gjelder dette:



5)

i) Mangel på primærnøkkel gjør det umulig å identifisere en unik rad i Truck tabellen.

ii)

Funksjonelle Avhengigheter:

Registration_number -> Registration_Year, Model, Assignment_number

Model -> Maximum_weigth.

iii)

Kandidatnøkler:

Registration_number, Model

iiii)

Siden oppgaven ikke sier eksplisitt at en truck kan brukes til flere oppgaver, så har jeg valgt å løse på denne måten. Hvis hver Truck har kun en gitt assignment, så gjelder dette:

Truck (#Registration_number, Registraition_Year, Model*, Assignment_number*)

Truck_Model(#Model, Maximum_weight*)

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)