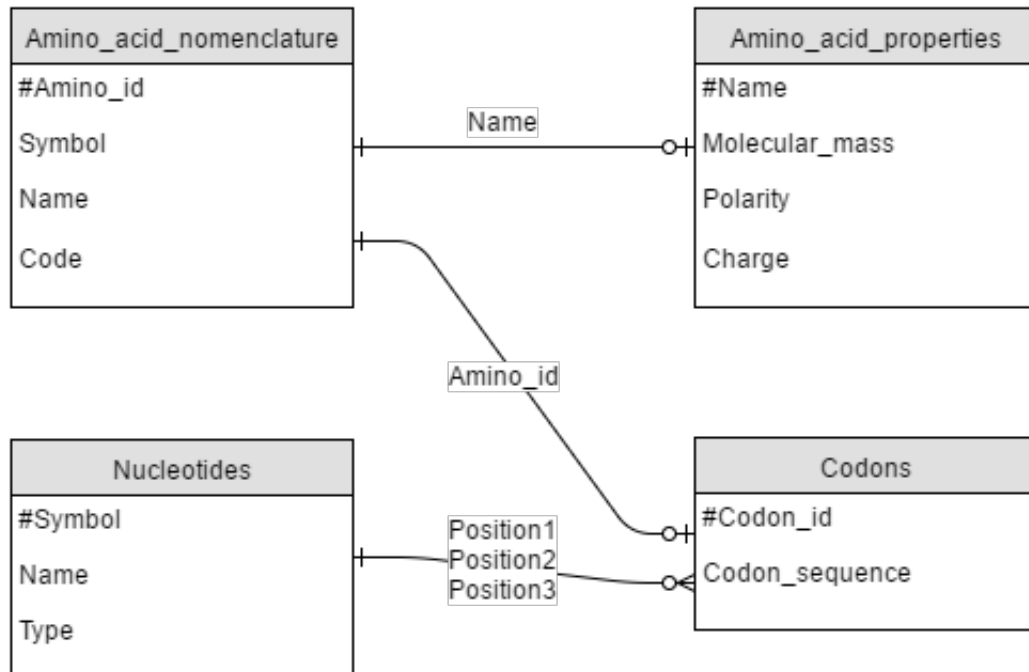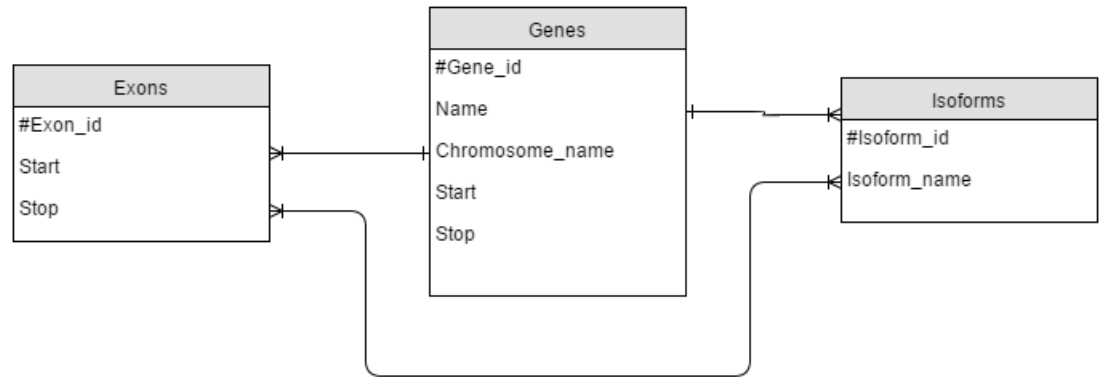# Inf115 Oblig 2

Name: Emil Poiesz

Oppgave 1

Oppgave 2

i Gene, Exons og Isoforms

ii

Exon(e<u>xon_id</u>, gene_id*, start, stop)
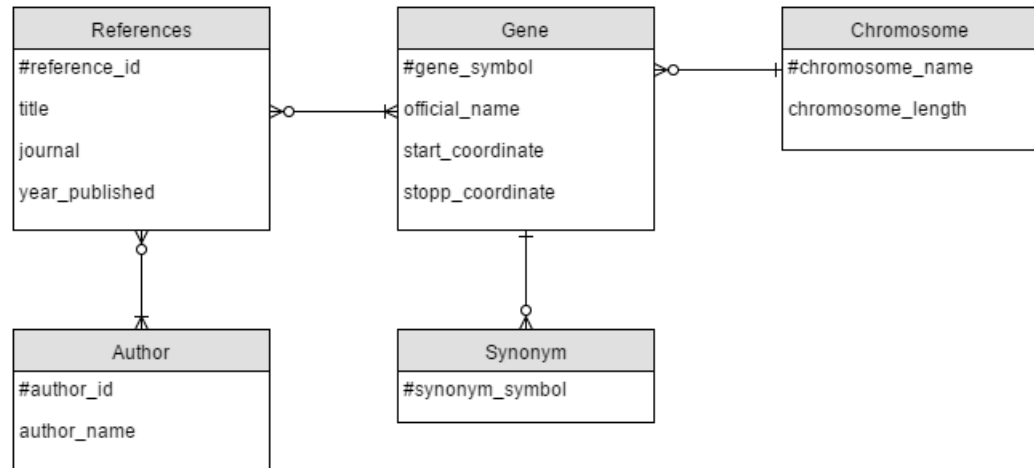
Genes(<u>gene_id</u>, chromosome_name, start, stop)

Isoform(<u>isoform_id</u>, gene_id*,)

iii Exons_in_isoform(<u>exon_id*</u>, <u>isoform_id*</u>)

Oppgave 3

i Gene, Synonym, Chromosome, References, Author

References
#reference_id
title
journal
year_published

Gene
#gene_symbol
official_name
start_coordinate
stopp_coordinate

Chromosome
#chromosome_name
chromosome_length

Author
#author_id
author_name

Synonym
#synonym_symbol

ii

iii
Genome(gene_symbol, synonym_symbol, reference_id, author_id, official_name, chromosome_name, length, start_coordinate, stop_coordinate, title, journal, year_published, author_name)

Gene(gene_symbol, start_coordinate, stop_coordinate, chromosome_name*)

Synonyms(synonym_symbol, gene_symbol*)

Chromosome(chromosome_name, chromosome_length)

Reference(reference_id, title, journal, year_published)
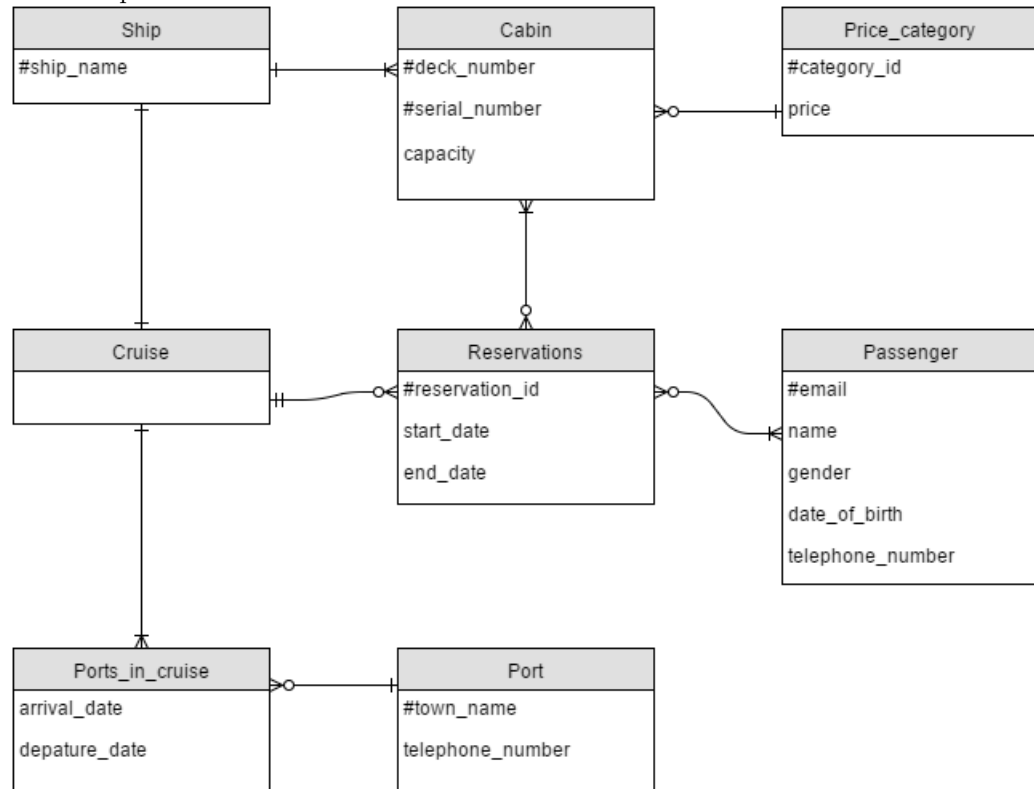
Author(author_id, author_name)

Reference_to_gene(reference_id*, gene_symbol)

iv Reference_to_author(reference_id*, author_id*)

Oppgave 4

Since ship has connection to cabin it can derive number of cabins. I cabins we store capacity for each cabin, we can therefore derive number of passengers from the sum of all the capacities. The route is stored in Ports_in_cruise where we store all the ports with dates for each cruise.

Ship
#ship_name

Cabin
#deck_number
#serial_number
capacity

Price_category
#category_id
price

Cruise

Reservations
#reservation_id
start_date
end_date

Passenger
#email
name
gender
date_of_birth
telephone_number

Ports_in_cruise
arrival_date
depature_date

Port
#town_name
telephone_number

Oppgave 5

i Truck doesn't have any primary keys and the most likely primary key, registration_number, doesn't derive assignment_number. You would end up with each truck only being able to be assigned to one assignment or if you want to assign it to multiple assignments you end up with a lot of duplicate information.

ii Dependent on registration_number: registration_number, registration_year, model, maximum_weight
Dependent on model: maximum_weight
Dependent on assignment_number: assignment_number

iii The candidate key would be registration_number and assignment_number

Container(<u>container_number</u>, type_id*)

Container_type(<u>type_id</u>, type_name, qubic_quantity, noghtly_rate)

Assignment(<u>assignment_number</u>, telephone_number*, container_number*, start_date, end_d

Costumer(<u>telephone_number</u>, address)

Truck(<u>registration_number,</u> model, registration_year)

Model(<u>model*</u>, maximum_weight)

iv Assignment_for_truck(<u>registration_number*, assignment_number*</u>)