Testprøve Database Opgaver

In this case we have created some Tasks here in which should help the student in preparation for the exam.

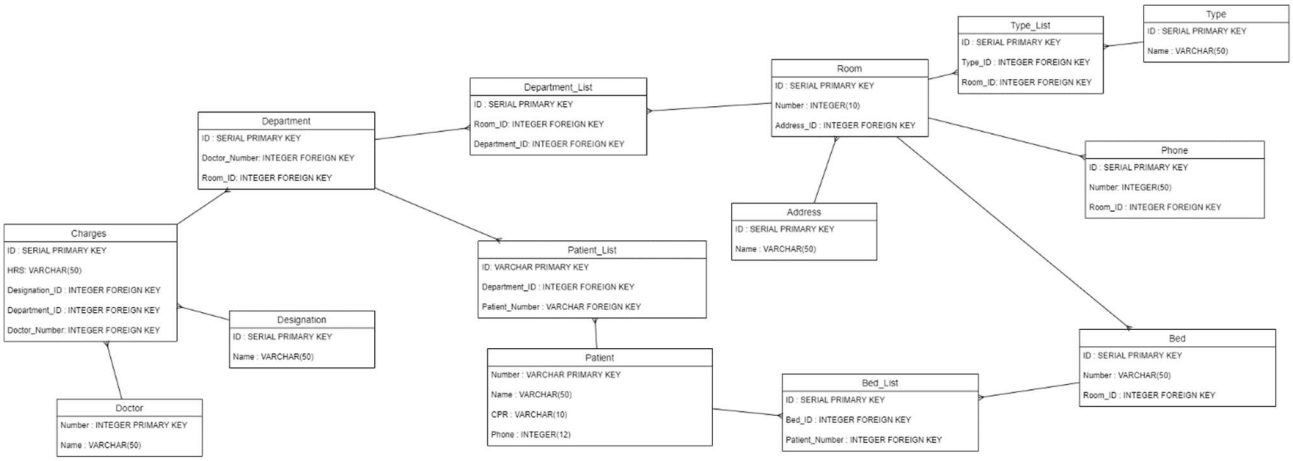
Opgave 1

Doctor Number	Name	Room Address	Phone	Department Id	Designation	Charges per hour	Patient Number	Patient Name	CPR Number	Patient Phone	Room Number	Room Type	Bed Number
D1	Dr. Peterson	U45	12341234	Neurology	Professor	5000	P1	Jan	190582-1113	98769876	R2	Normal	B1
D1	Dr. Peterson	U45	12341324	Neurology	Professor	5000	P5	Peter	300175-2359	87658765	R2	Normal	B1
D1	Dr. Peterson	U45	12341234	Neurology	Professor	5000	P7	Jens	041298-1257	76547654	Null		Null
D2	Dr. Jensen	U32	24352435	Orthopedic	Professor	5000	P4	Ole	051165-9863	65436543	R2	Normal	B1
D2	Dr. Jensen	U32	23452345	Orthopedic	Professor	5000	P7	Jens	041298-1257	76547654	R4	Two Bed	B5
D2	Dr. Jensen	U32	23452435	Orthopedic	Professor	5000	P9	Anna	260792-1050	54325432	R4	Two Bed	B7
D4	Dr. Poetch	U186	34563456	ENT/Neurology	Assistant Professor	3000	P10	Dennis	150893-1151	43214321	Null		Null
D4	Dr. Poetch	U186	34563456	ENT/Neurology	Assistant Professor	3000	P1	Jan	190582-1113	98769876	R5	Special	B8
D5	Dr. Neurenheim	U150	45674567	Skin/Orthepoedic	Assistant Professor	3000	P12	Ahmed	010211-7853	32103210	Null		Null
D5	Dr. Neurenheim	U150	45674567	Skin/Orthepoedic	Assistant Professor	3000	P13	Annika	051285-8072	21092109	R6	Special	B9

→ From the dataset above:
  → Normalize the table to the fourth normal form.
  → Create SQL Script to generate all the tables, and the associated data.
→ Query the database for all patients of Dr. Peterson, and find their name, cpr, what room they were in, and the bed number.

Besvarelse

We will start by dividing tables into more pieces, and then we get the following result.



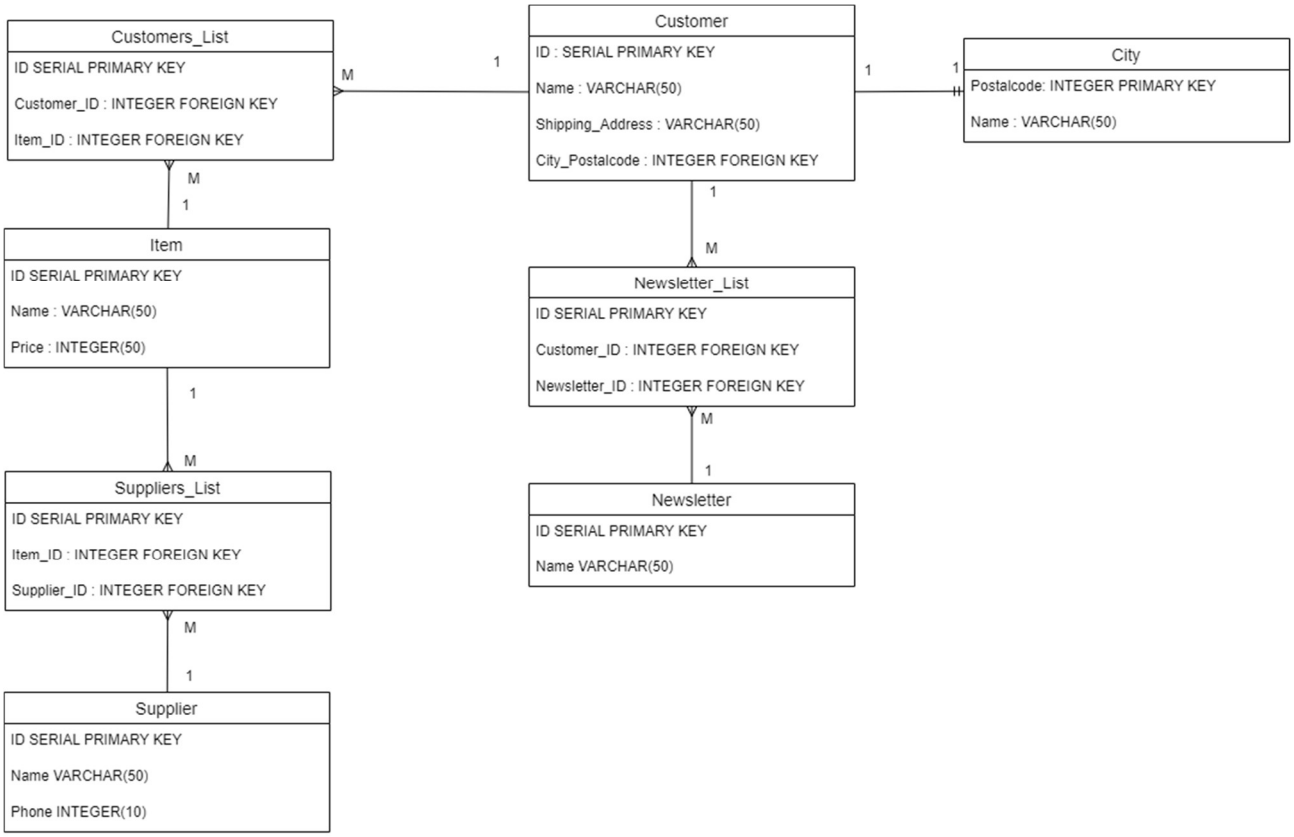
Opgave 2

Convert the following table into the fourth normalized form.

Customer Name	Item	Shipping Address	Newsletter	Supplier	Supplier Phone	Price
Jens Bergholm	XBOX One	Mølletoften 20, 7100 Vejle	Xbox News	Microsoft	12341324	1800
Dennis Jørgensen	Playstation 4	Vinkelvej 167, 7100 Vejle	Playstation News	Sony	23452345	1900
Hans Jensen	XBOX One, PS Vita	Kongensgade 45, 5000 Odense	Xbox News, Playstation News	Wholesale	00000000	3300
Anne Johansen	Playstation 4	Vinkelvej 167, 7100 Vejle	Playstation News	Sony	23452345	1900

Besvarelse

In this case we will start by creating all the necessary tables shown on the picture.



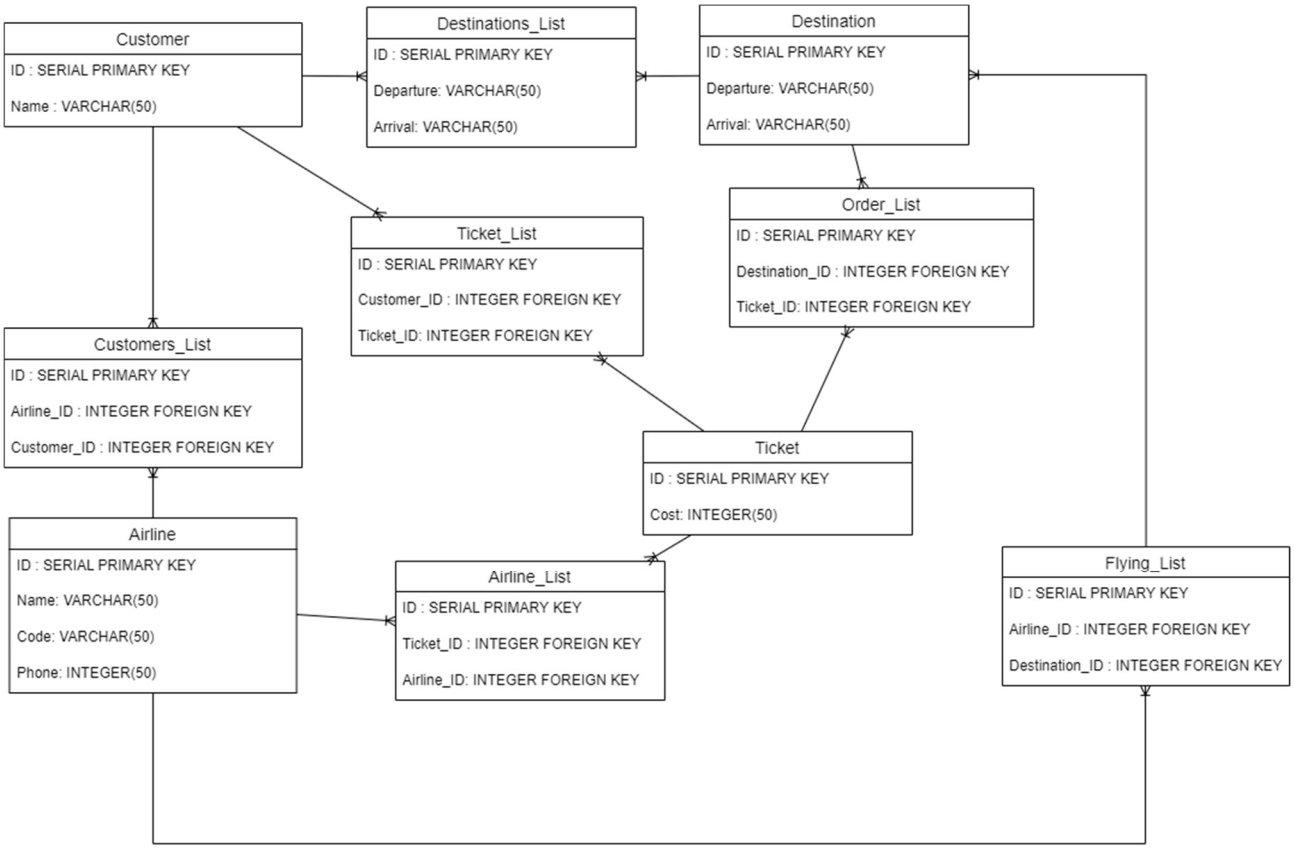
Opgave 3

Convert the following table into the fourth normalized form.

Customer Name	Airline	Departure	Arrival	Shared Code	Airline Phone	Ticket Price
Vivek Misra	Air India	Delhi	Lucknow	AI769	1234	7000
Abhishek Misra	Jet Airways	Lucknow	Delhi	9W596	4321	7000
Vaishnavi Misra	Air India	Lucknow	Delhi	AI770	1234	8000
Varun Deo Misra	IndiGo	Delhi	Kolkata	6E4246	1345	7500
Jyoti Misra	IndiGo	Delhi	Chennai	6E4247	1345	7500

Besvarelse

We need to divide the tables into small relevant pieces as possible. It is a recipe, which needs to be short and accurate as possible.



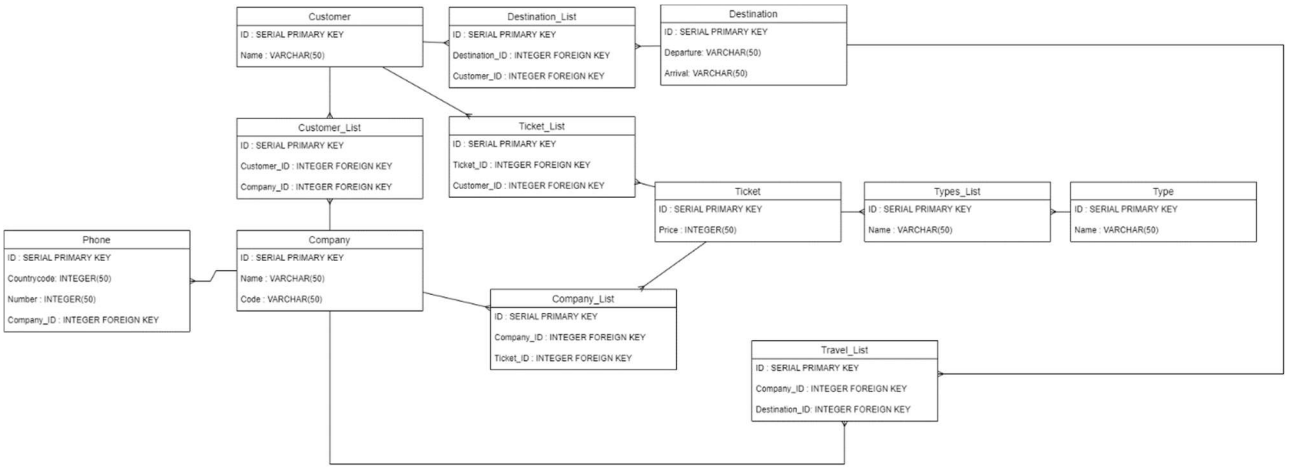
Opgave 4

Convert the following table into the fourth normalized form.

Customer Name	Company	Departure	Arrival	Shared Code	Company Phone	Ticket_Type	Ticket Price
Vivek Misra	DSB	Copenhagen	Horsens	ICL789	70131415	Orange	124
Varun Deo Misra	DSB	Horsens	Odense	ICL799	70131415	Enkelt	156
Jyoti Misra	DSB	Horsens	Sønderborg	ICL568	70131415	Enkelt	200
Vaishnavi Misra	DSB	Horsens	Aarhus	ICR8744	70131415	Enkelt	62
Abhishek Misra	DSB	Esbjerg	Aalborg	ICE3876	70131415	Orange	250

Besvarelse

We need to divide the tables into small relevant pieces as possible. It is a recipe, which needs to be short and accurate as possible.



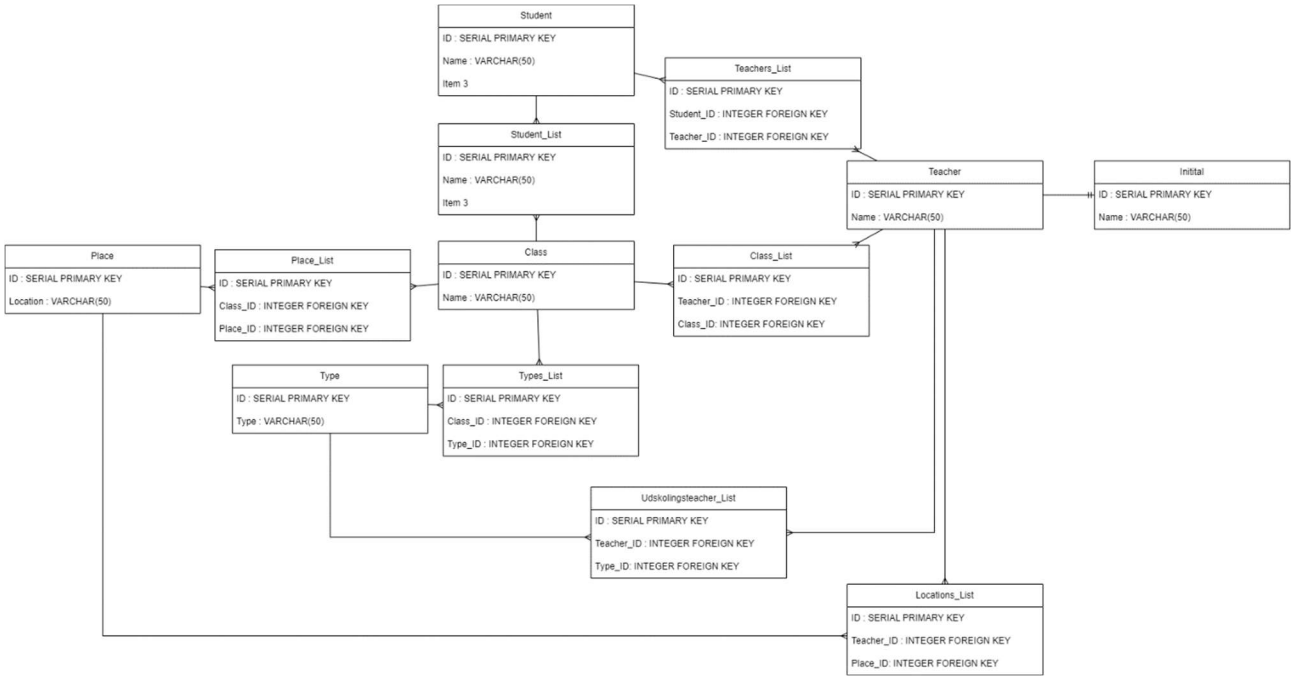
Opgave 5

Convert these tables into fourth normalized form.

Student Name	Class_Type	Class_Name	Class_Location	Teacher Name	Initials
Vivek Misra	Udskolling	9.C	Horsens	Linda Stouby Hansen	LH
Vaishnavi Misra	Udskoling	9.A	Horsens	Lene Sørensen	LS
Abhishek	Udskoling	9.I	Horsens	Helge Hyldeberg	HE
Varun Deo Misra	Udskoling	9.B	Horsens	Peter Vinther Rasmussen	PR
Jyoti Misra	Udskoling	9.N	Horsens	Jakob Wilhardt	JW

Besvarelse

We need to divide the tables into small relevant pieces as possible. It is a recipe, which needs to be short and accurate as possible.


Student
ID : SERIAL PRIMARY KEY
Name : VARCHAR(50)
Item 3
Teachers_List
ID : SERIAL PRIMARY KEY
Student_ID : INTEGER FOREIGN KEY
Teacher_ID : INTEGER FOREIGN KEY
Student_List
ID : SERIAL PRIMARY KEY
Name : VARCHAR(50)
Item 3
Teacher
ID : SERIAL PRIMARY KEY
Name : VARCHAR(50)
Initial
ID : SERIAL PRIMARY KEY
Name : VARCHAR(50)
Place
ID : SERIAL PRIMARY KEY
Location : VARCHAR(50)
Place_List
ID : SERIAL PRIMARY KEY
Class_ID : INTEGER FOREIGN KEY
Place_ID : INTEGER FOREIGN KEY
Class
ID : SERIAL PRIMARY KEY
Name : VARCHAR(50)
Class_List
ID : SERIAL PRIMARY KEY
Teacher_ID : INTEGER FOREIGN KEY
Class_ID: INTEGER FOREIGN KEY
Type
ID : SERIAL PRIMARY KEY
Type : VARCHAR(50)
Types_List
ID : SERIAL PRIMARY KEY
Class_ID : INTEGER FOREIGN KEY
Type_ID : INTEGER FOREIGN KEY
Udskolingsteacher_List
ID : SERIAL PRIMARY KEY
Teacher_ID : INTEGER FOREIGN KEY
Type_ID: INTEGER FOREIGN KEY
Locations_List
ID : SERIAL PRIMARY KEY
Teacher_ID : INTEGER FOREIGN KEY
Place_ID: INTEGER FOREIGN KEY