Practice 3: DDL

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August 31, 2021

1 Introduction

For the creation of a database, it is not only to generate the sentences to just execute them and create the database, but there is much more work and planning before generating any sentence. This work consists of generating entity-relationship diagrams, relational diagrams and later making the required sentences from the diagrams made.

2 Developing

For this practice you can generate an activity, then change the results with a partner and carry out the next activity and thus all the activities.

2.1 Activity 1:

You should define a problem statement about a topic of interest (a brief description). Write it as part of the activity 1.

- You want to manage a database for a school control, in which the students, subjects, teachers and the classrooms in which the subject is taught will be controlled.

2.2 Activity 2:

The problem statement of activity 1 will be passed to you (from another classmate). With this problem statement, you should be able to generate the ER diagram.

For this activity, the approach of my colleague Marlon Alfredo García Meza was used. This approach said the following: *"A bakery needs to manage the sale and creation of desserts by its multiple workers."*
Result of making the entity-relationship diagram of the approach:

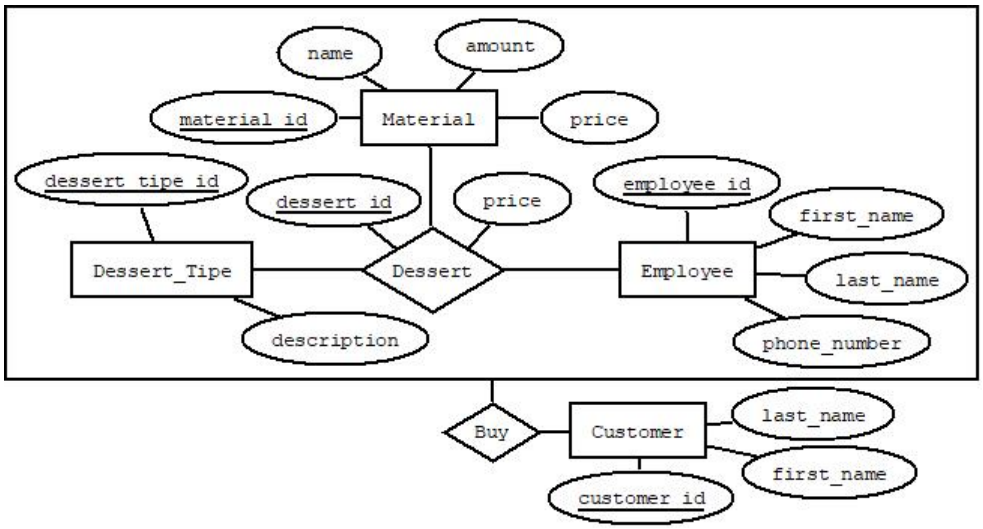

Figure 1: Entity relationship diagram.

2.3 Activity 3:

The ER diagram of activity 2 will be passed to you (from another classmate). With this ER diagram, you should be able to generate the relational diagram by using "Dia" software.
The diagram with which this activity was carried out was from my colleague Francisco Vargas de la Llata Ibarra.

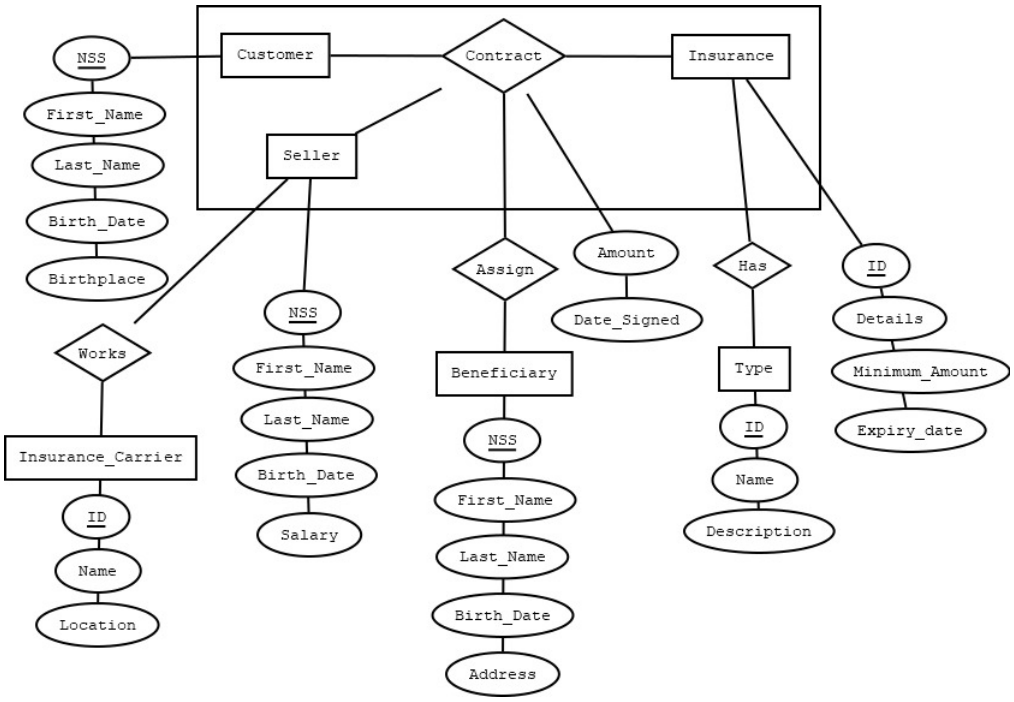

Figure 2: Francisco Vargas ER diagram.

From this entity-relationship diagram, the following relational diagram was obtained using the "dia" tool:

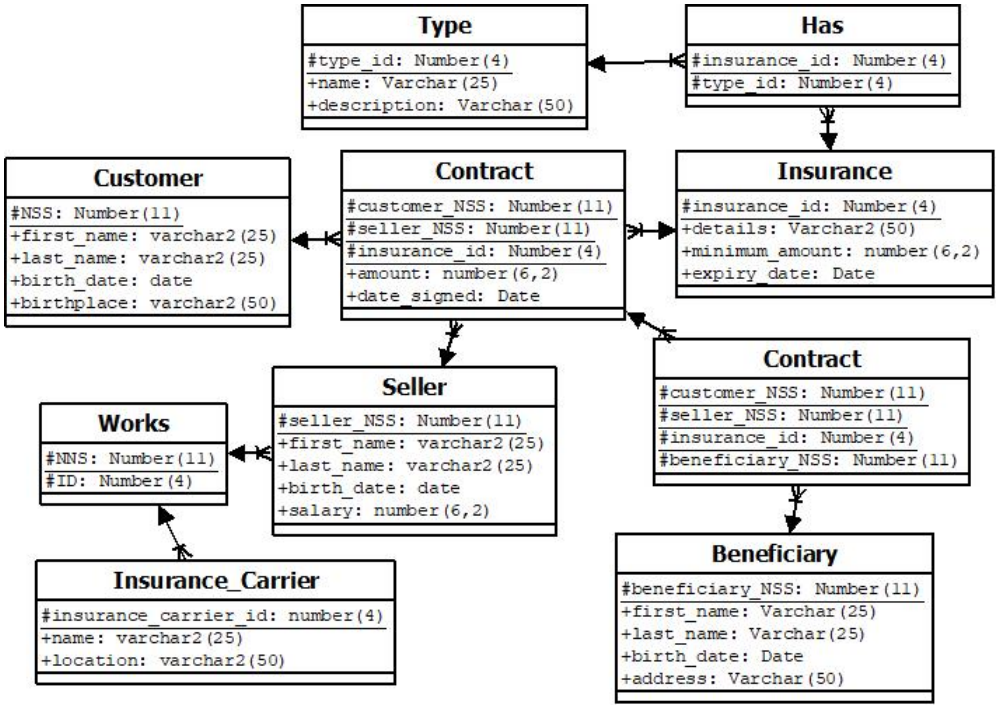

Figure 3: Relational diagram.

2.4 Activity 4:

The relational diagram of activity 3 will be passed to you (from another classmate). With this relational diagram, you should be able to generate the Oracle DDL sentences. With these tables, you should automatically generate the physical diagram in DATA MODELER (dragging the tables). Compare this diagram with the relational model made by Dia.

The relational diagram was provided by my partner Elías Emiliano Beltrán González:

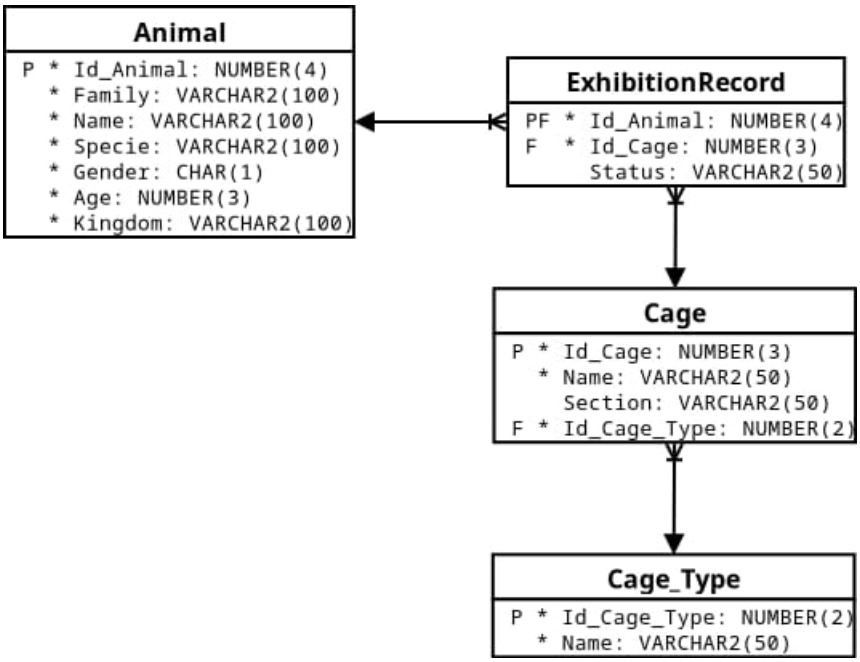

Figure 4: Elías Beltrán Relational diagram.

DDL statements:

- create table Animal(
  id_animal number(4),
  family varchar2(100) constraint animal_family_nn not null,
  name varchar2(100) constraint animal_name_nn not null,
  specie varchar2(100) constraint animal_specie_nn not null,
  gender char(2) constraint animal_gender_nn not null,
  age number(3) ,
  kingdom varchar2(100));

- create table Cage_Type(
  id_cage_type number(2),
  name varchar2(50) constraint cage_type_name_nn not null);

- create table Cage(
  id_cage number(3),
  name varchar2(50) constraint cage_name_nn not null,
  section varchar2(50) constraint cage_section_nn not null,
  id_cage_type number(2));

- create table Exhibition_record(
  id_animal number(4),
  id_cage number(3),
  status varchar(50) constraint Exhibition_record_status_nn not null);
- alter table Animal add constraint animal_pk primary key (id_animal);
- alter table Cage_Type add constraint cage_type_pk primary key (id_cage_type);
- alter table Cage add constraint cage_pk primary key (id_cage);
- alter table Cage add constraint cage_type_cage_fk foreign key (id_cage_type) references Cage_Type(id_cage_type);
- alter table Exhibition_record add constraint exhibition_record_pk primary key (id_animal);
- alter table Exhibition_record add constraint animal_exhibition_rec_fk foreign key (id_animal) references Animal(id_animal);
- alter table Exhibition_record add constraint cage_exhibition_rec_fk foreign key (id_cage) references Cage(id_cage);

Resulting relational diagram: The diagrams are quite similar, the attributes

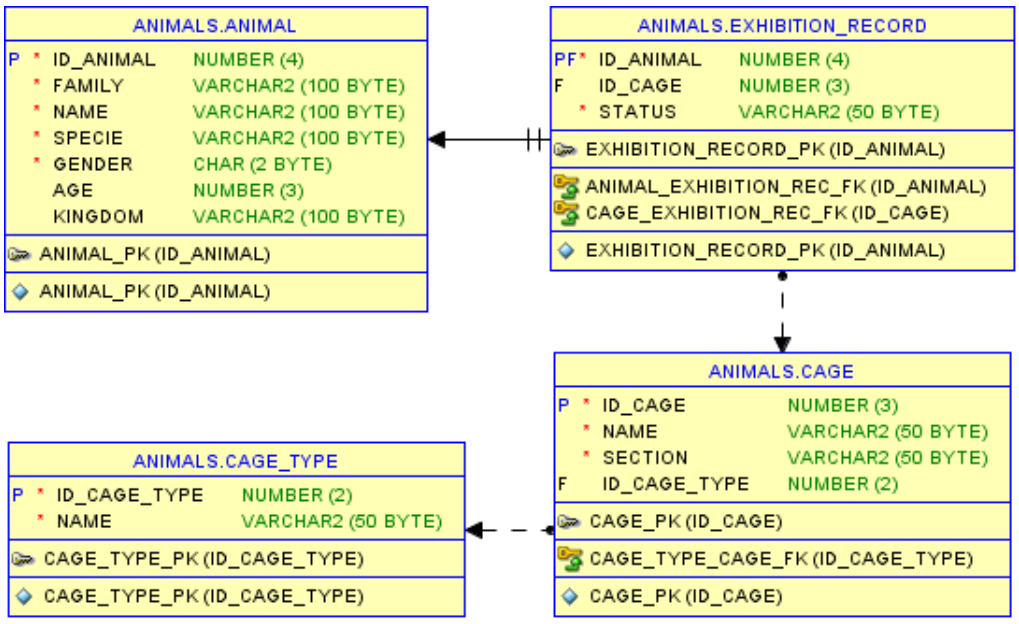

Figure 5: Resulting relational diagram.

are completely similar and their relationships the same.

3 Pre-Assessment:

- Practices pre-Assessment for Database Systems Laboratory II

Practice	Pre-Assessment
COMPLIES WITH THE REQUESTED FUNCTIONALITY	X
HAS THE CORRECT INDENTATION	X
HAS AN EASY WAY TO ACCESS THE PROVIDED FILES	X
HAS A REPORT WITH IDC FORMAT	X
REPORT INFORMATION IS FREE OF SPELLING ERRORS	X
DELIVERED IN TIME AND FORM	X
IS FULLY COMPLETED (SPECIFY THE PERCENTAGE COMPLETED)	100

Table 1: Pre-Assessment.

4 Conclusion:

Doing exercises in which we have to do with more people is a very good practice to learn to work with the results of others and thus approach a more work environment.
Working with someone else's results can be beneficial in terms of creation time or very damaging, since the person who starts with the first activity will have to do the best they can, since everything else will be based on this and if some part fails in some aspect this will be reflected in the final result.