Autonomous University of Zacatecas

Academic Unit of Electrical Engineering

Academic Program of Software Engineering

Database Systems Laboratory II Practice 3
-DDL

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1 Introduction

The Oracle DDL language is transcendental in the handling of SQL statements at the level of both administrator and database programmer, since it allows the definition of database schemes regardless of the platform used to generate it. Sequences, synonymous and indexes are salient objects in Oracle, since they can help you in several tasks during daily programmer's days.

In this practice we will work together with some classmates, to exchange both ideas and different ways of seeing the diagrams and proposed scenarios.

We will also continue working with the entity-relational and relational models and with our DDL statements for creating tables and databases.

2 Activity 1

Write the section that describes the Work developed in the following activities. You should define a problem statement about a topic of interest (a brief description). Write it as part of the activity 1. Example. “A used car company requires managing the sale of cars to customers. These cars are of various brands; these cars are sold in cash and in a single payment”.

My problem:

”A travel agency chain wants to have a database that includes the relative information of the accommodation and flights of the tourists who hire them”

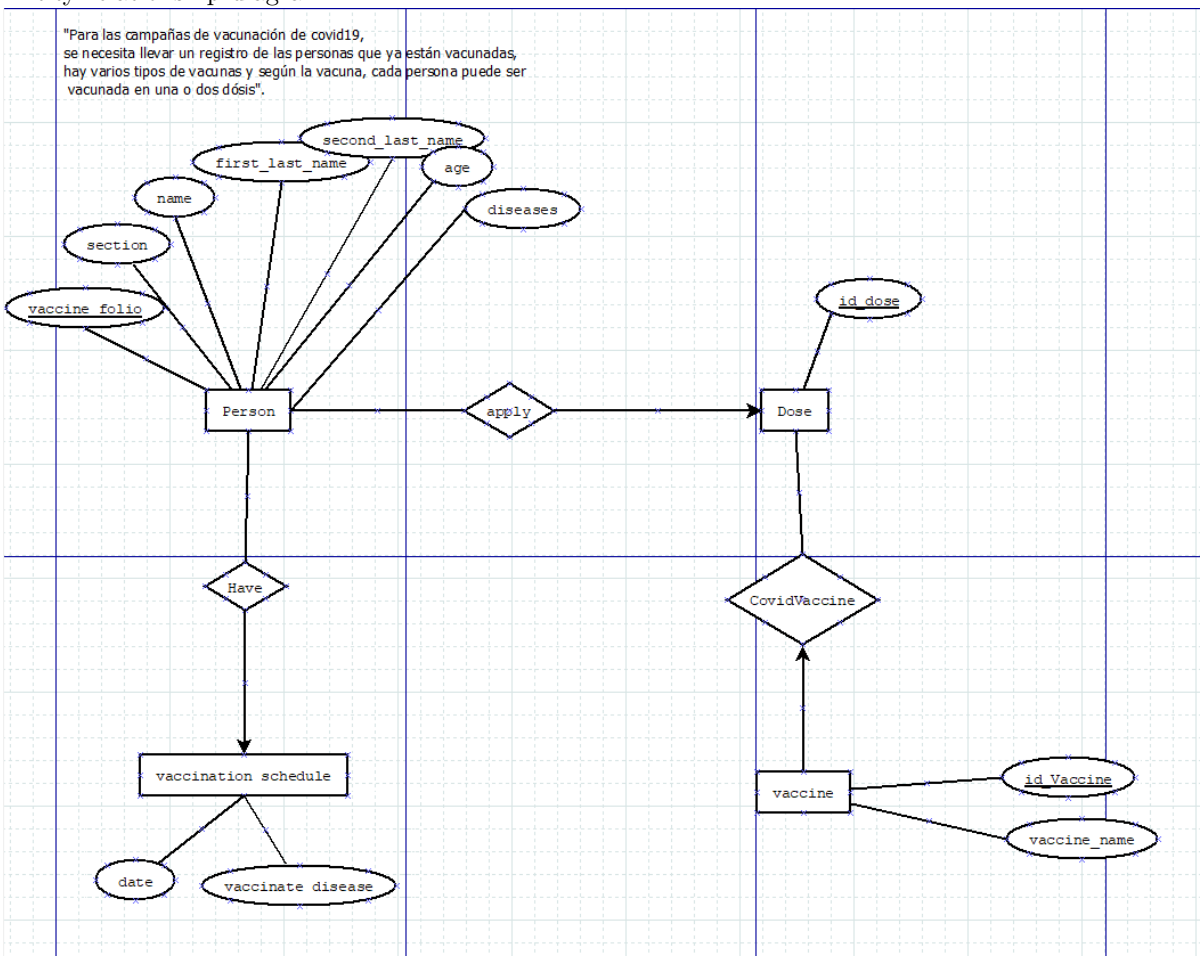
Problem of my classmate Victor Silva Luna that I will use for practice:

”For Covid19 vaccination campaigns, it is necessary to keep a record of the people who are already vaccinated, there are several types of vaccines and depending on the vaccine, each person can be vaccinated in one or two doses.”

3 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

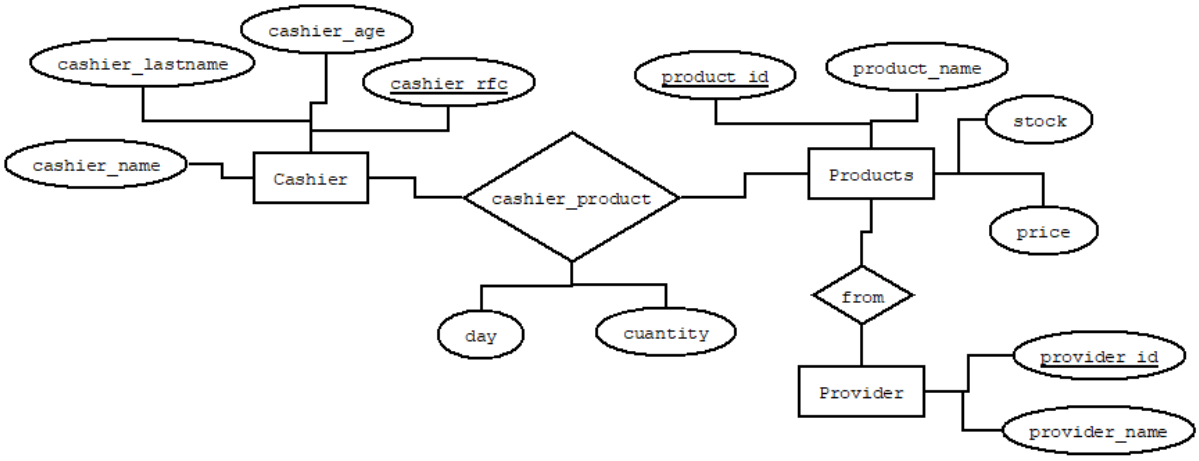
Entity relationship diagram



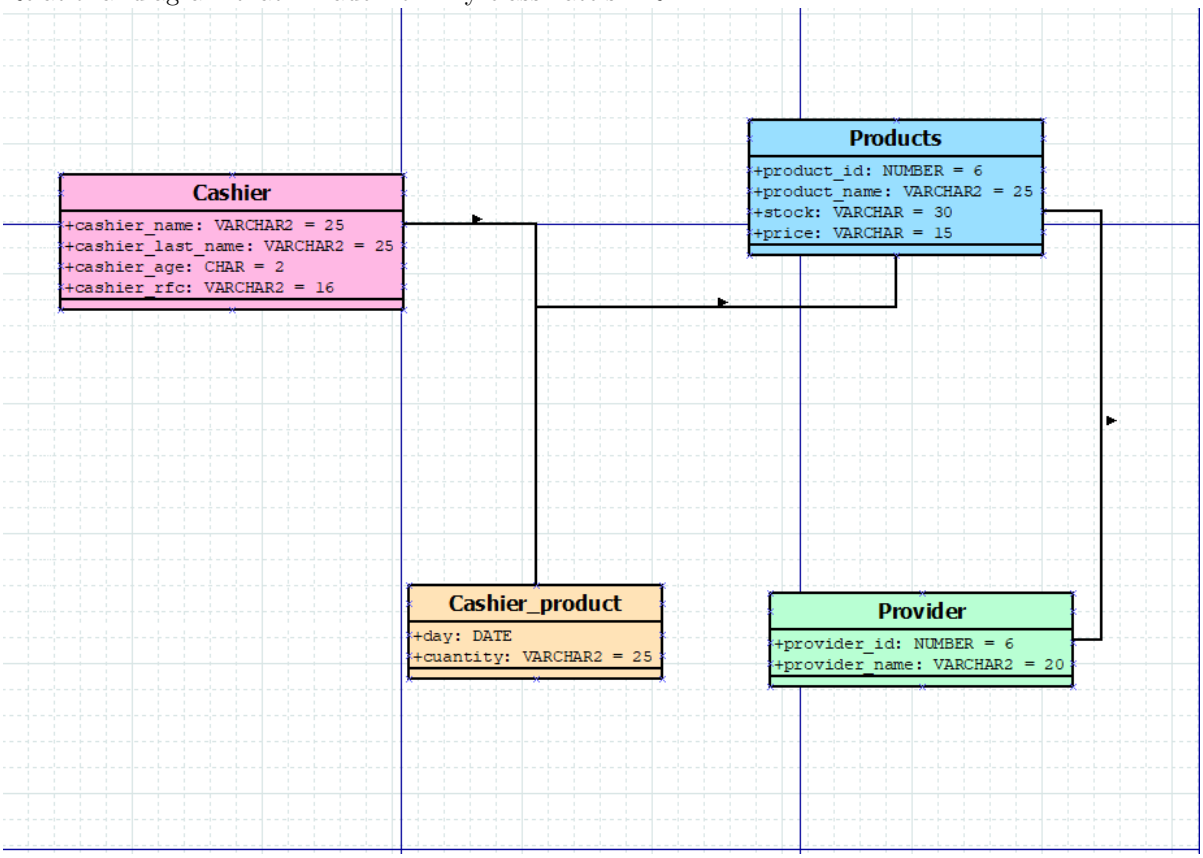
4 Activity 3

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.

ER diagram of my classmate Rolando Ordaz :



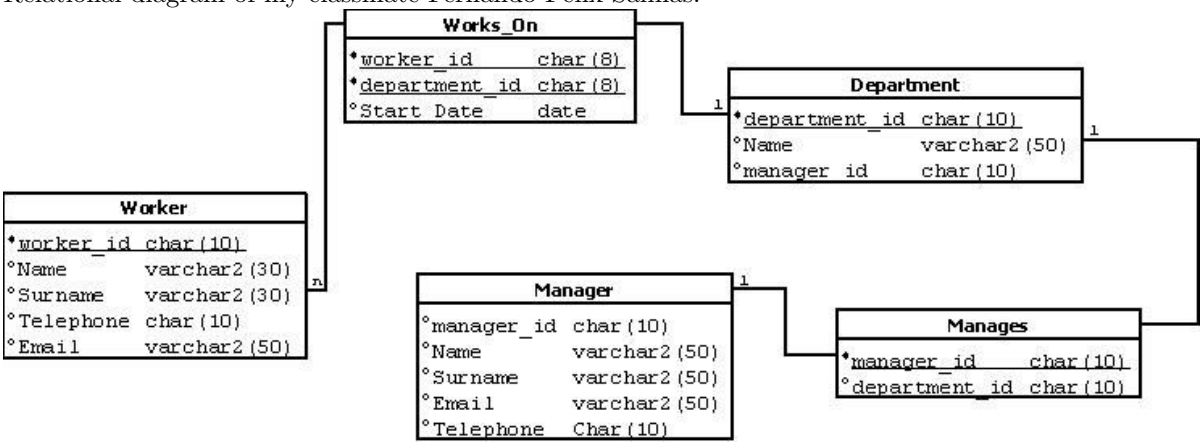
Relational diagram that I made from my classmate's ER



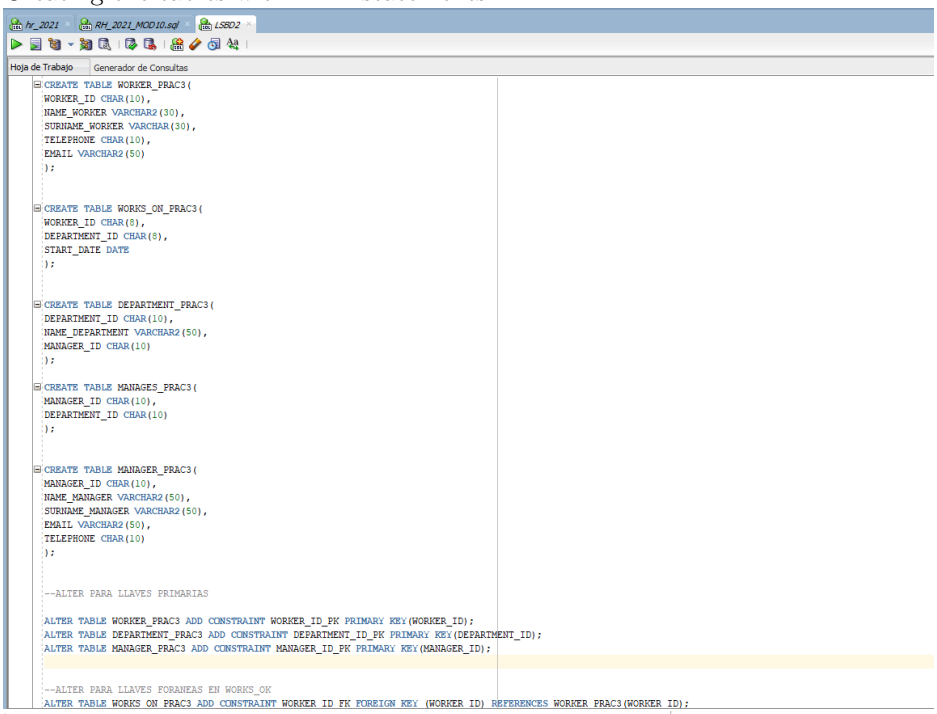
5 Activity 4

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.

Relational diagram of my classmate Fernando Félix Salinas:



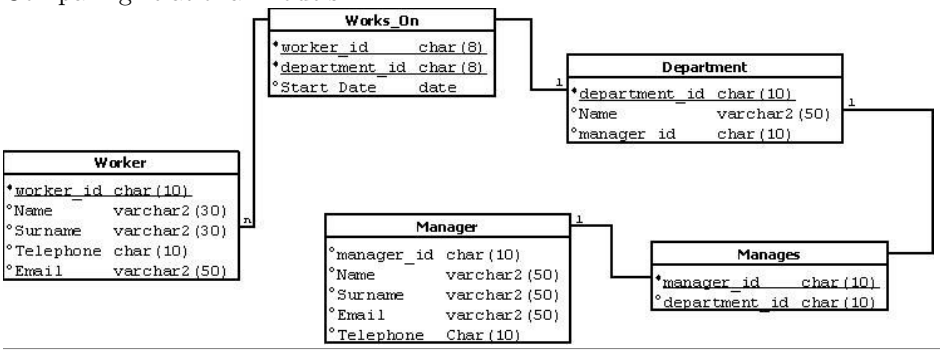
Creating the tables with DDL statements:

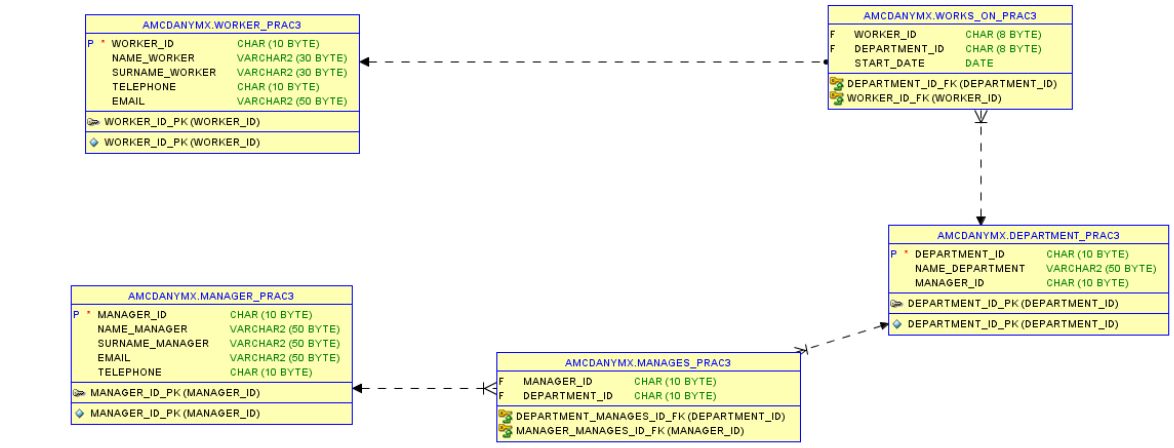


```
CREATE TABLE WORKER_PRAC3(
WORKER_ID CHAR(10),
NAME_WORKER VARCHAR2(30),
SURNAME_WORKER VARCHAR(30),
TELEPHONE CHAR(10),
EMAIL VARCHAR2(50)
);

CREATE TABLE WORKS_ON_PRAC3(
WORKER_ID CHAR(8),
DEPARTMENT_ID CHAR(8),
START_DATE DATE
);

CREATE TABLE DEPARTMENT_PRAC3(
DEPARTMENT_ID CHAR(10),
NAME_DEPARTMENT VARCHAR2(50),
MANAGER_ID CHAR(10)
);

CREATE TABLE MANAGES_PRAC3(
MANAGER_ID CHAR(10),
DEPARTMENT_ID CHAR(10)
);

CREATE TABLE MANAGER_PRAC3(
MANAGER_ID CHAR(10),
NAME_MANAGER VARCHAR2(50),
SURNAME_MANAGER VARCHAR2(50),
EMAIL VARCHAR2(50),
TELEPHONE CHAR(10)
);

--ALTER PARA LLAVES PRIMARIAS

ALTER TABLE WORKER_PRAC3 ADD CONSTRAINT WORKER_ID_PK PRIMARY KEY(WORKER_ID);
ALTER TABLE DEPARTMENT_PRAC3 ADD CONSTRAINT DEPARTMENT_ID_PK PRIMARY KEY(DEPARTMENT_ID);
ALTER TABLE MANAGER_PRAC3 ADD CONSTRAINT MANAGER_ID_PK PRIMARY KEY(MANAGER_ID);

--ALTER PARA LLAVES FORANEAS EN WORKS_OK
ALTER TABLE WORKS_ON_PRAC3 ADD CONSTRAINT WORKER_ID_FK FOREIGN KEY (WORKER_ID) REFERENCES WORKER_PRAC3(WORKER_ID);
```

```
--ALTER PARA LLAVES PRIMARIAS

ALTER TABLE WORKER_PRAC3 ADD CONSTRAINT WORKER_ID_PK PRIMARY KEY(WORKER_ID);
ALTER TABLE DEPARTMENT_PRAC3 ADD CONSTRAINT DEPARTMENT_ID_PK PRIMARY KEY(DEPARTMENT_ID);
ALTER TABLE MANAGER_PRAC3 ADD CONSTRAINT MANAGER_ID_PK PRIMARY KEY(MANAGER_ID);


--ALTER PARA LLAVES FORANEAS EN WORKS_OK
ALTER TABLE WORKS_ON_PRAC3 ADD CONSTRAINT WORKER_ID_FK FOREIGN KEY (WORKER_ID) REFERENCES WORKER_PRAC3(WORKER_ID);
ALTER TABLE WORKS_ON_PRAC3 ADD CONSTRAINT DEPARTMENT_ID_FK FOREIGN KEY (DEPARTMENT_ID) REFERENCES DEPARTMENT_PRAC3(DEPARTMENT_ID);



--ALTER PARA LLAVES FORANEAS EN MANAGES
ALTER TABLE MANAGES_PRAC3 ADD CONSTRAINT MANAGER_MANAGES_ID_FK FOREIGN KEY (MANAGER_ID) REFERENCES MANAGER_PRAC3(MANAGER_ID);
ALTER TABLE MANAGES_PRAC3 ADD CONSTRAINT DEPARTMENT_MANAGES_ID_FK FOREIGN KEY (DEPARTMENT_ID) REFERENCES DEPARTMENT_PRAC3(DEPARTMENT_ID);


DROP TABLE DEPARTMENT_PRAC3;
DROP TABLE MANAGER_PRAC3;
DROP TABLE MANAGES_PRAC3;
DROP TABLE WORKER_PRAC3;
DROP TABLE WORKS_ON_PRAC3;
```

Comparing relational models:





We can see that both diagrams are practically the same, which means that I get to understand well the classmate.

6 PRE-EVALUATION

Practices pre-Assessment for Database Systems Laboratory II Pre-Assessment
PRACTICE carried out by student

1 COMPLIES WITH THE REQUESTED FUNCTIONALITY
YES

4 HAS THE CORRECT INDENTATION
YES

6 HAS AN EASY WAY TO ACCESS THE PROVIDED FILES
YES

7 HAS A REPORT WITH IDC FORMAT
YES

8 REPORT INFORMATION IS FREE OF SPELLING ERRORS
YES

9 DELIVERED IN TIME AND FORM
YES

10 IS FULLY COMPLETED (SPECIFY THE PERCENTAGE COMPLETED)
YES,100 percent

7 Conclusion

The entity relationship diagrams are important to have a correct development of the database logic, and can be seen better in the relational models. this practice helped me to learn something else and review the topic again.

The practice was quite interesting, it helped me to continue learning about models, and how we can have different visions and perspectives with other people on the same topic

8 Extra-notes

A tablet with images and script of the practice is attached