

Autonomous University of Zacatecas

ACADEMIC UNIT OF ELECTRICAL ENGINEERING

ACADEMIC PROGRAM OF SOFTWARE ENGINEERING



DATABASE SYSTEMS LABORATORY II PRACTICE 5
-DDL

PROFESSOR:
ALDONSO BECERRA SÁNCHEZ

STUDENT:
DANIEL ALEJANDRO MORALES CASTILLO

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 toy factory wants to keep track of its daily production. In this scenario, suppliers provide each part that is required, giving those supplied on a monthly basis”.

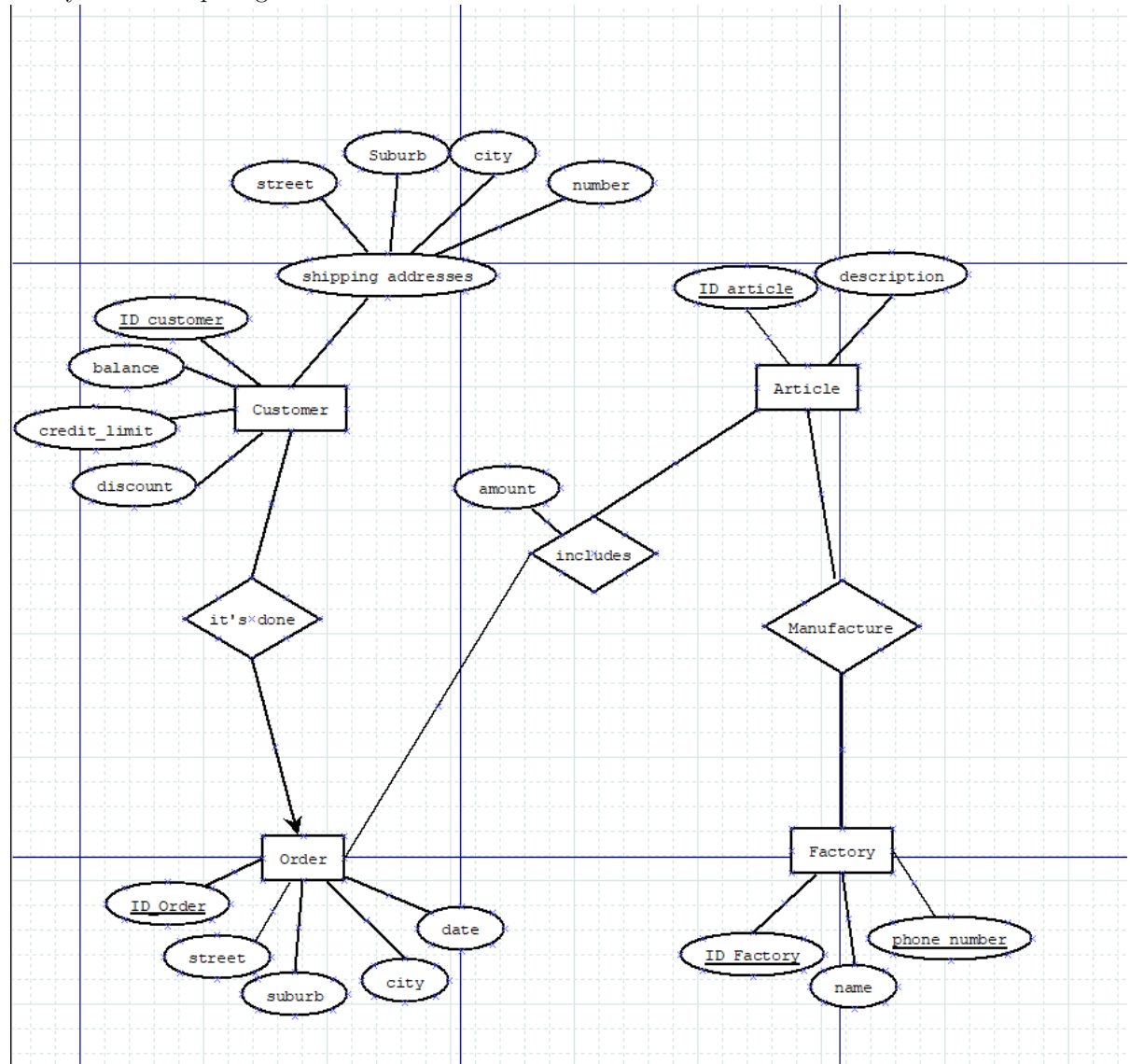
My problem: The Grand Slam is made up of four annual tournaments that are held in Great Britain, the United States, France and Australia. In each country they can be developed in different places (e.g. in the USA it can be developed in Forest Hill or Flushing Meadows). Each match is associated with a consolation prize for the loser that will depend on the phase in which the tournament is found (e.g. the loser of the knockout stage can win money). The winner of At the end you will receive the prize corresponding to the tournament. Each tournament has five modalities: Men’s Singles, Women’s Singles, Men’s Doubles, Doubles female and mixed doubles. The nationality of a player must also be taken into account, so that he may be stateless or have various nationalities.

Problem of my classmate: A database for a small business should contain information about customers, items, and orders.

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.

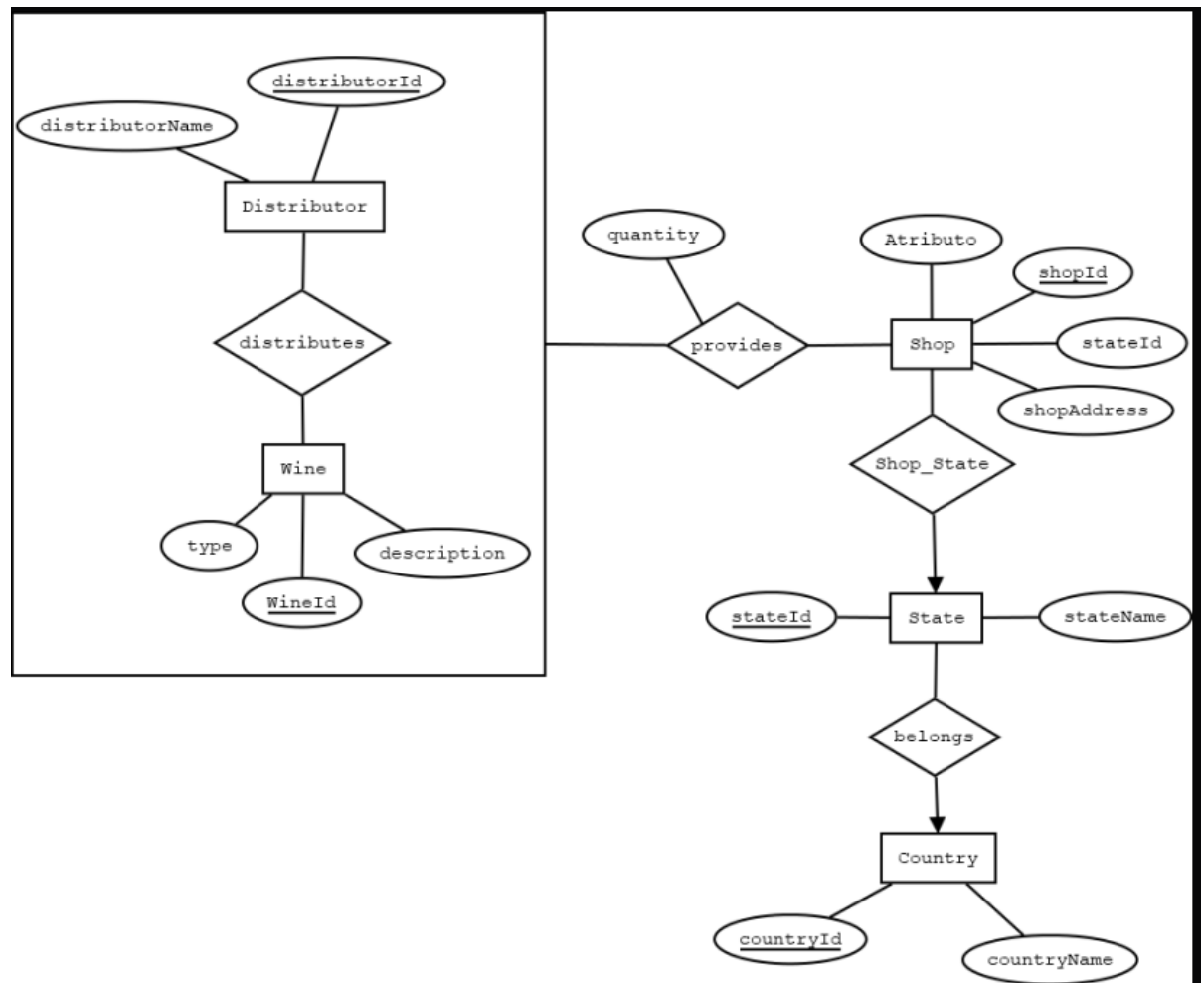
Entity relationship diagram



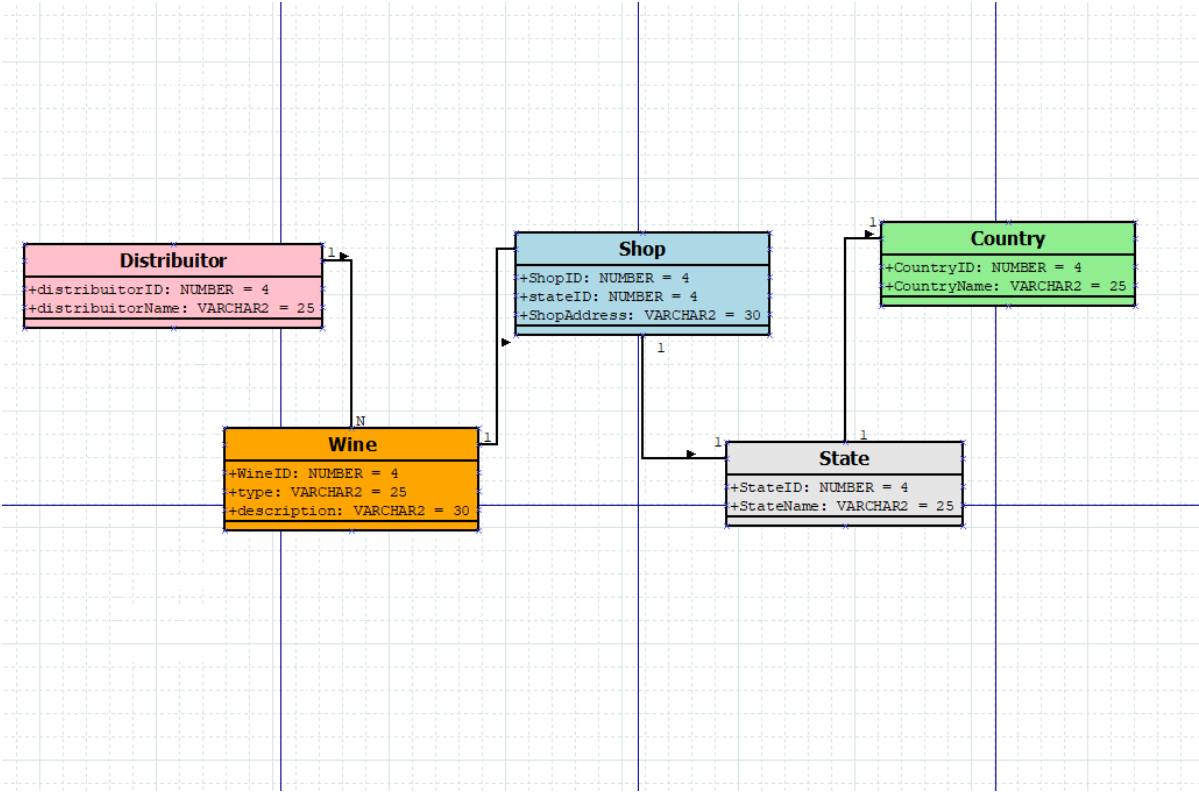
4 Activity 3

The problem statement and its corresponding ER diagram of activity 2 will be passed to you (from another classmate). With these two items, you should correct the necessary parts of the ER diagram (using your abstraction) according to its problem statement, then, you should be able to generate the relational diagram by using “Dia” software

ER diagram of my classmate Victor Silva :



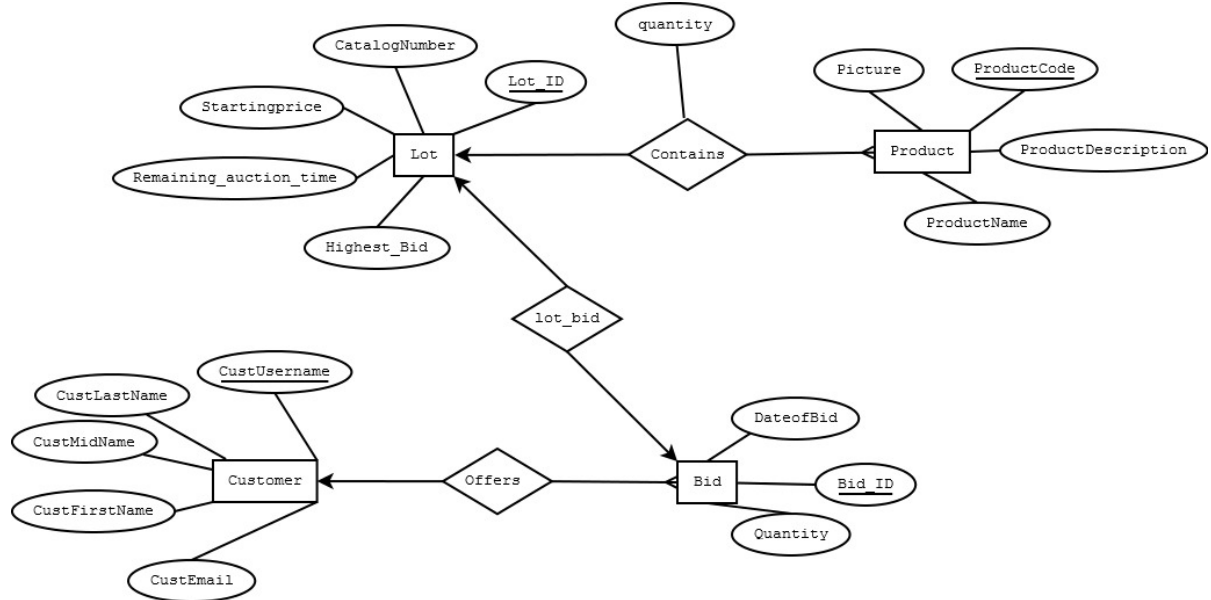
Relational diagram that I made from my classmate's ER



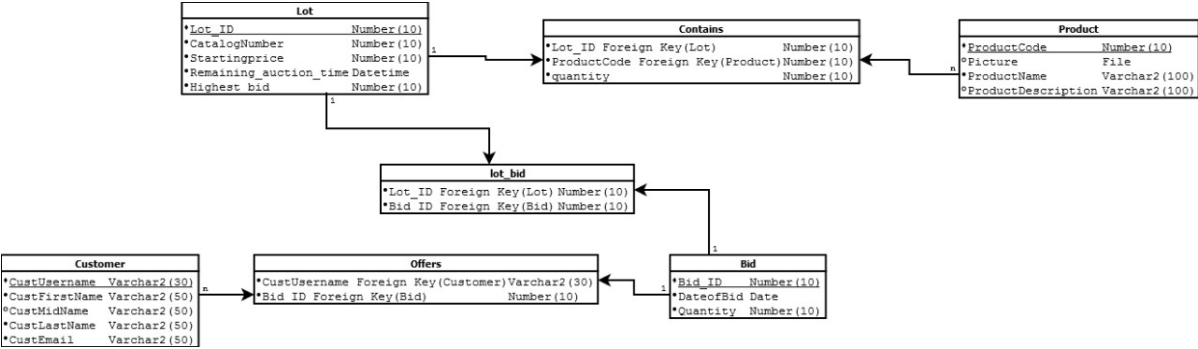
5 Activity 4

The ER and relational diagrams of activity 3 will be passed to you (from another classmate). With just these two diagrams, you should correct the necessary parts of the relational diagram (using your abstraction) according to its ER diagram, then you should be able to generate the Oracle DDL sentences. You should add the basic indexes according to the diagram (reading the possible data to extract), the necessary sequences for the solution and the appropriate synonyms taking into account your insight. 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.

ER diagram of my classmate Rodrigo Rodrigo Vega Marin:



Relational diagram of my classmate Rodrigo Rodrigo Vega Marin:



Creating the tables with DDL statements:

```
/*LOT TABLE*/
CREATE TABLE LOT_P5(
  LOT_ID NUMBER(10),
  CATALOG_NUMBER NUMBER(10),
  STARTINGPRICE NUMBER(10),
  REMAINING_AUCTION_TIME DATE,
  HIGHEST_BID NUMBER(4)
);
--CREATE PRIMARY KEYS WITH ALTER TABLE
ALTER TABLE LOT_P5 ADD CONSTRAINT LOT_ID_PK PRIMARY KEY(LOT_ID);

/*PRODUCT TABLE*/
CREATE TABLE PRODUCT_P5(
  PRODUCT_CODE NUMBER(10),
  PRODUCT_NAME VARCHAR2(25),
  PRODUCT_DESCRIPTION VARCHAR2(100)
);
--CREATE PRIMARY KEYS WITH ALTER TABLE
ALTER TABLE PRODUCT_P5 ADD CONSTRAINT PROD_ID_PK PRIMARY KEY(PRODUCT_CODE);

/*BID TABLE*/
CREATE TABLE BID_P5(
  BID_ID NUMBER(10),
  DATE_OF_BID DATE,
  QUANTITY NUMBER(10)
);
--CREATE PRIMARY KEYS WITH ALTER TABLE
ALTER TABLE BID_P5 ADD CONSTRAINT BID_ID_PK PRIMARY KEY(BID_ID);

/*CUSTOMER TABLE*/
CREATE TABLE CUSTOMER_P5(
  CUST_ID NUMBER(10),
  CUST_FIRST_NAME VARCHAR2(50),
  CUST_MID_NAME VARCHAR2(50),
  CUST_LAST_NAME VARCHAR2(50),
  CUST_EMAIL VARCHAR2(50)
);
--CREATE PRIMARY KEYS WITH ALTER TABLE
ALTER TABLE CUSTOMER_P5 ADD CONSTRAINT CUST_ID_PK PRIMARY KEY(CUST_ID);

--PROCESSES
/*CONTAINS TABLE*/
CREATE TABLE CONTAINS_P5(
  LOT_ID NUMBER(10),
  PRODUCT_CODE NUMBER(10),
```

```

--SEQUENCES
--SECUENCIAS
CREATE SEQUENCE SEQUENCE_LOT_P5
    START WITH 1
    INCREMENT BY 1
    MAXVALUE 9999
    MINVALUE 1
    NOCYCLE
    NOCACHE ;

CREATE SEQUENCE SEQUENCE_PRODUCT_P5
    START WITH 1
    INCREMENT BY 1
    MAXVALUE 9999
    MINVALUE 1
    NOCYCLE
    NOCACHE ;

CREATE SEQUENCE SEQUENCE_BID_P5
    START WITH 1
    INCREMENT BY 1
    MAXVALUE 9999
    MINVALUE 1
    NOCYCLE
    NOCACHE ;

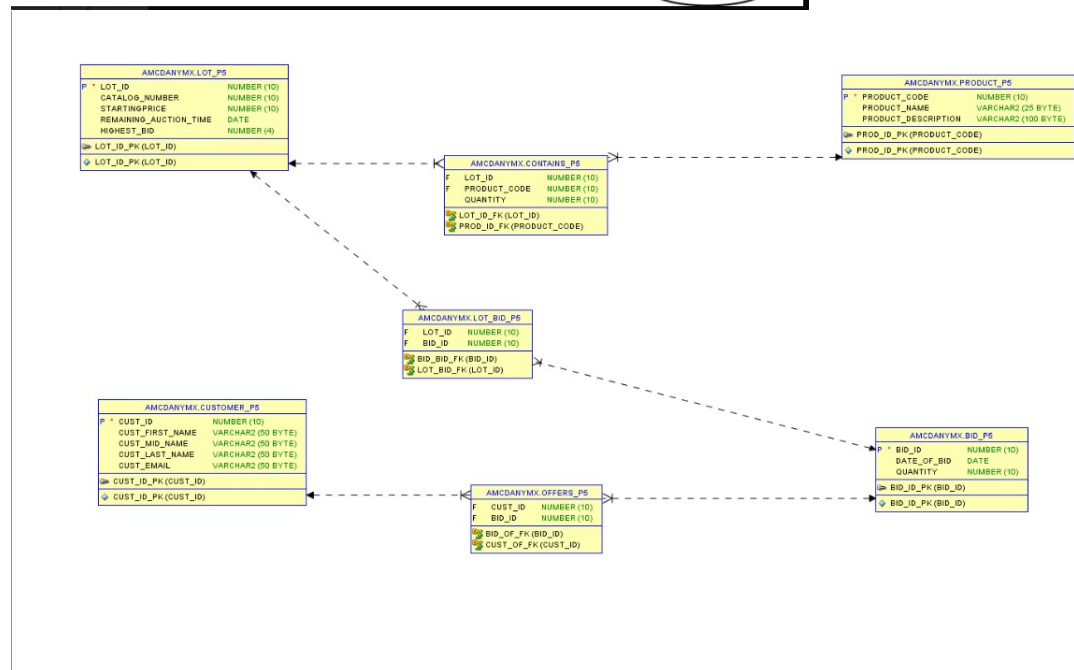
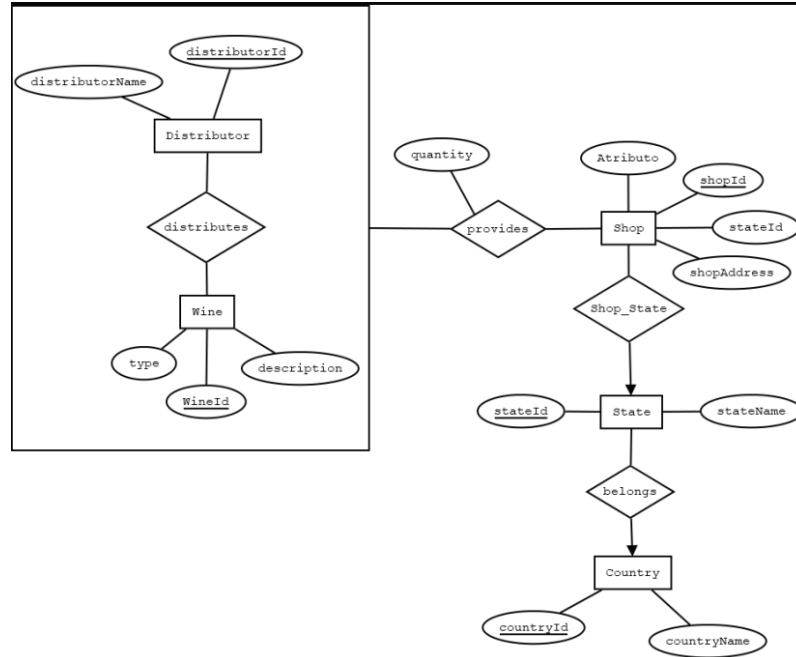
CREATE SEQUENCE SEQUENCE_CUSTOMER_P5
    START WITH 1
    INCREMENT BY 1
    MAXVALUE 9999
    MINVALUE 1
    NOCYCLE
    NOCACHE ;

--SYNONYMS
CREATE SYNONYM L_P5 FOR LOT_P5;
CREATE SYNONYM PROD_P5 FOR PRODUCT_P5;
CREATE SYNONYM B_P5 FOR BID_P5;
CREATE SYNONYM CUST_P5 FOR CUSTOMER_P5;
CREATE SYNONYM CONT_P5 FOR CONTAINS_P5;
CREATE SYNONYM L_B_P5 FOR LOT_BID_P5;
CREATE SYNONYM OFFRS_P5 FOR OFFERS_P5;

--INDEX
--TABLA EMPLEADOS_dAMC
CREATE INDEX CAT_NUM_LOT ON LOT_P5(CATALOG_NUMBER);
CREATE INDEX PROD_NAM_PROD ON PRODUCT_P5(PRODUCT_NAME);
CREATE INDEX CUST_NAME ON CUSTOMER_P5(CUSTOMER_NAME);

```

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 5 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 topics like synonyms, index's and sequence's 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