Lab 02 – Relational Model

Objectives:

The purpose of this to familiarize yourself with the User Interface, SQL Developer, and the database that we will be using throughout the course to communicate with the Oracle server. By the end of this lab you should be able to:

- Successfully establish a connection with and login to the Oracle database server using SQL Developer
- Explore and work with the database and data
- Understand the relationships, constraints, data types, and tables' specification.

Preface:

If you have not already done so, you will need to download the sample database creation script from blackboard and run it. These instructions are included in the Getting Started section with SQL Developer document.

LAB 02 - SUBMISSION

Answer the following questions in the provided space. **Save your file as a PDF file and name it as following**:

DBS211_L02_LastName.pdf

Tasks:

By navigating through SQL Developer and looking at the Columns, Data, model, and Constraints tabs for the given tables. You will answer the following questions.

NOTE: Use a different color for your answers.

For the given table in your database, answer the following questions:

Part A

a) Answer the following Question for the **DBS211_PRODUCTS** table.

1) How many columns (attributes) are there in this table? _____9_____
2) How many rows are there in this table? _____110_____
3) List the table's columns and the requested information in the following format:

Column Name	Type	Not Null
PRODUCTCODE	VARCHAR2(15 BYTE)	YES
PRODUCTNAME	VARCHAR2(70 BYTE)	YES
PRODUCTLINE	VARCHAR2(50 BYTE)	YES
DBS211_PRODUCTSCALE	VARCHAR2(10 BYTE)	YES
PRODUCTVENDOR	VARCHAR2(50 BYTE)	YES
PRODUCTDESCRIPTION	VARCHAR2(1000 BYTE)	YES
QUANTITYINSTOCK	NUMBER(38, 0)	YES
BUYPRICE	NUMBER(10, 2)	YES
MSRP	NUMBER(10, 2)	YES

4) Sort the data based on the third and the first columns in your table and write the data of the first row in the following format. To sort the data based on a column, right click on that column and select "sort". You can select the column that the data will be sorted based on it. (Make sure CHATACTER type values are enclosed in single quotes.)

Column name	Column Value
PRODUCTCODE	1
PRODUCTNAME	2
PRODUCTLINE	3
DBS211_PRODUCTSCALE	4
PRODUCTVENDOR	5
PRODUCTDESCRIPTION	6
QUANTITYINSTOCK	7
BUYPRICE	8
MSRP	9

5) List all constraints in this table.
If a constraint is a foreign key, write the reference table.

Constraint Name	**Constraint Type**	**Reference Table**
PROD_LINE_FK	Foreign_Key	DBS211_PRODUCTLINES
SYS_C002085020	Check	
SYS_C002085021	Check	
SYS_C002085022	Check	
SYS_C002085023	Check	
SYS_C002085024	Check	
SYS_C002085025	Check	
SYS_C002085026	Check	
SYS_C002085027	Check	
SYS_C002085028	Check	
SYS_C002085029	Primary_Key	

6) What tables are in relationship with this table? List them below.

Table Name	**Column in Common**
DBS211_ORDERDETAILS	PRODUCTCODE
DBS211_PRODUCTLINES	PRODUCTLINE

To answer questions 7 and 8, please see the following example:

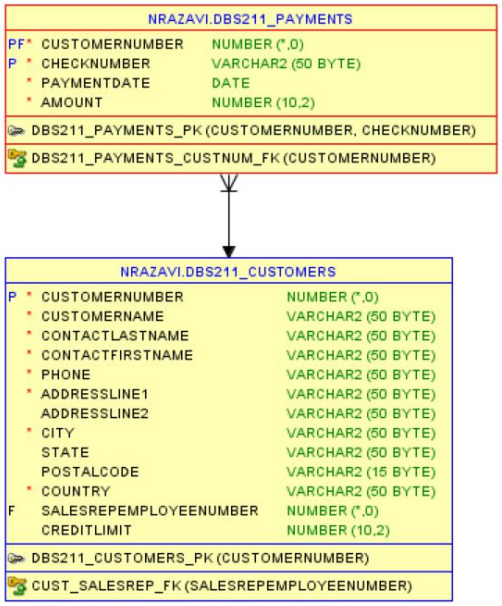
NOTE: V means MANY

↓ means ONE

MANY (⩛) is close to Contacts. You read “many Contacts”.

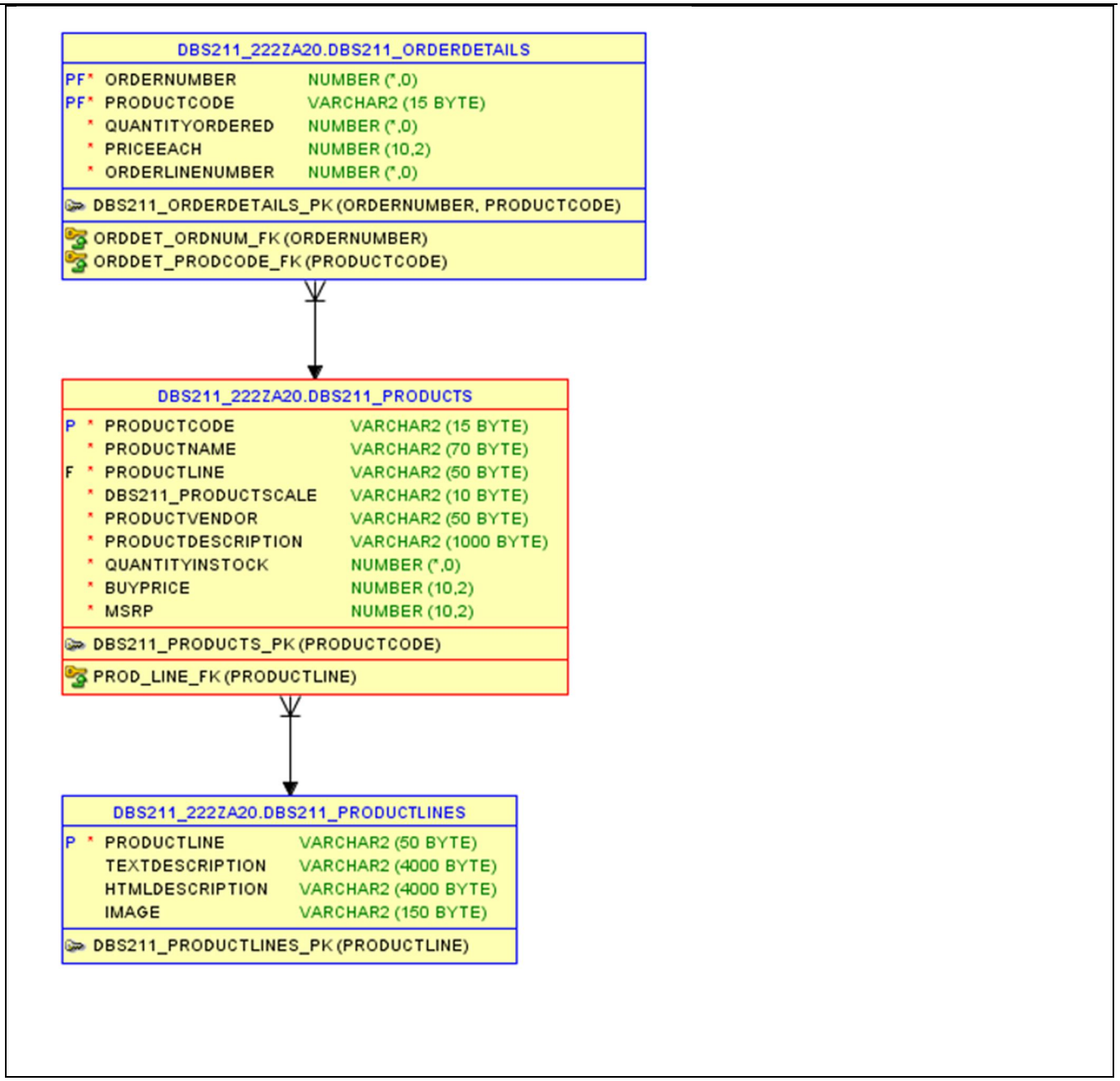
ONE (↓) is close to customers. You read “one customer”.

The model for the DBS211_PAYMENTS table relationships:



A customer have many payments.
A payment refers to one customer.

7) What is the model for the DBS211_PRODUCTS table relationships?



8) Translate the relationships in Question 7 (model) to English.

A product has many order details.
An order detail refers to one order.
A product line has many products.
A product refers to one product line.

Part B

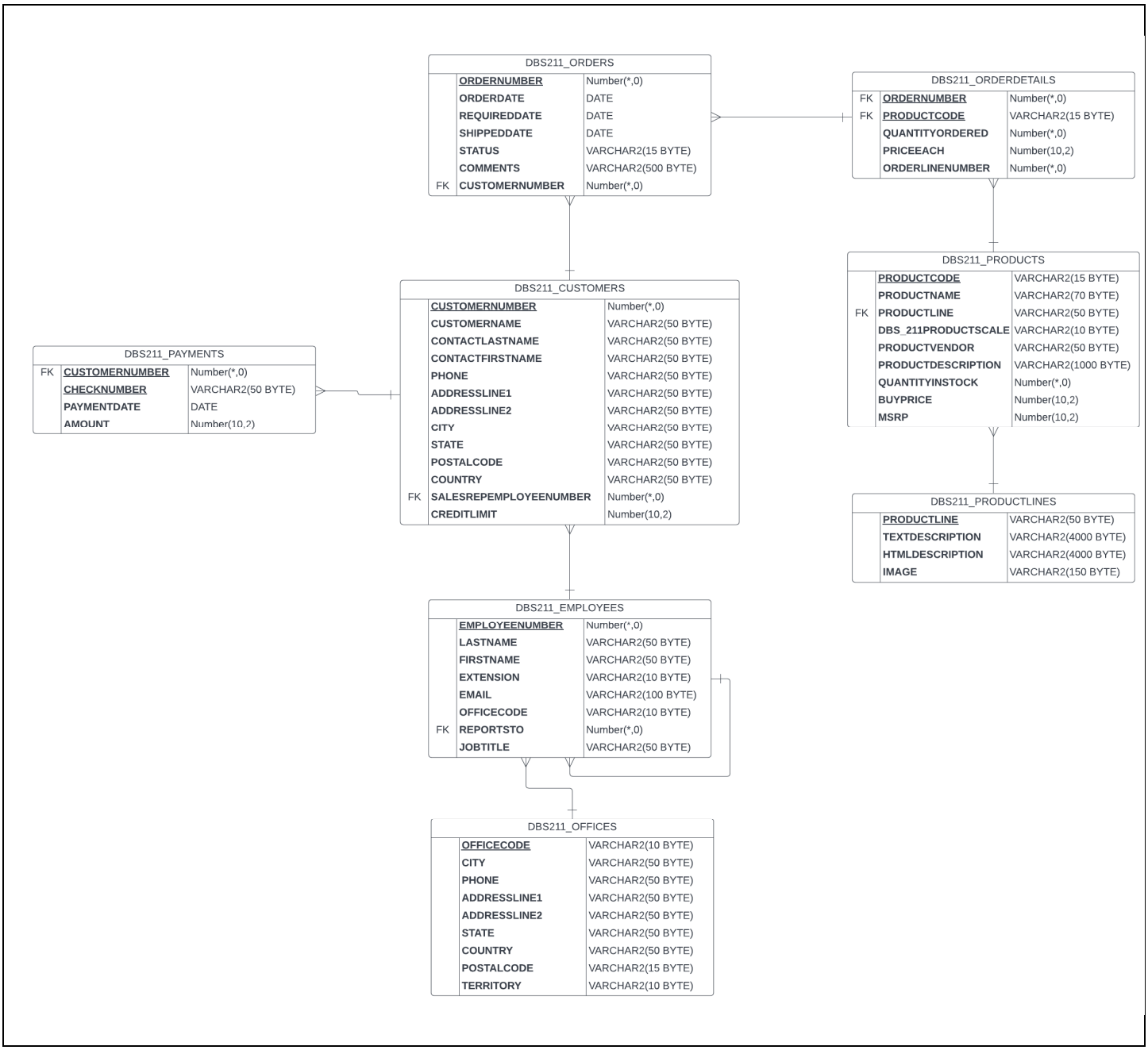
Create a relationship diagram for all the tables in the database. Use the MODEL tab to see the tables (entities) and their relationships.

Your diagram must include:

- All 8 tables

- The names of the entities (tables)
- The attributes (columns) for each table
- Lines representing the relationships between tables
- Crows Foot Symbols on the lines representing the type of relationship (1-1, 1-many)
- Required fields should be bolded
- Primary Key fields should be underlined **or** indicated with a PK beside it.
- Child fields in the relationships should be indicated with an FK beside it.

Use Lucidchart to draw you diagram. Save the diagram as an image and insert it here in the following box.



Good Luck.