Database Design Project

Oracle Baseball League Store Database

Project Scenario:

You are a small consulting company specializing in database development. You have just been awarded the contract to develop a data model for a database application system for a small retail store called Oracle Baseball League (OBL).

The Oracle Baseball League store serves the entire surrounding community selling baseball kit. The OBL has two types of customer, there are individuals who purchase items like balls, cleats, gloves, shirts, screen printed t-shirts, and shorts. Additionally customers can represent a team when they purchase uniforms and equipment on behalf of the team.

Teams and individual customers are free to purchase any item from the inventory list, but teams get a discount on the list price depending on the number of players. When a customer places an order we record the order items for that order in our database.

OBL has a team of three sales representatives that officially only call on teams but have been known to handle individual customer complaints.

Section 6 Lesson 3 Exercise : Data Definition Language

Use DDL to build and maintain database tables (S6L3 Objective 3)

Part 1: Reading information from a script

In this exercise you will use the "obl Sports.ddl" file to consolidate your knowledge of DDL.

Open the "obl Sports.ddl" in a text editor.

1. How many tables have been created using the CREATE TABLE statement? **10 Tables**
2. How many columns are created for the price history table? **6 columns**
3. What statement is used to enforce the constraint that the category column of the items table must have a value? **not null**
4. What is the name of the foreign key constraint between the customers and customer addresses tables? **Ctr_number**
5. What are the lowest and highest values that can be stored in the commission_rate column for the sales_representatives table? **highest: +99 and lowest -99**
6. What are the lowest and highest values that can be stored in the price column for the price_history table? **highest: +99999.99 lowest: -99999.99**
7. What are the 3 columns that make up the primary key for the price_history table?

   itm_number,start_date,start_time

Part 2 : Updating Constraints

Log-in to APEX and go to the SQL commands environment

Modifying a column

1. Run the DESCRIBE command on the orders table to view its structure.
2. **Task**: Add a default constraint that will use todays date to assign a value to the odr_date column of the orders table if no date is provided.
3. Run the DESCRIBE command again to verify the command was successful.

```
ALTER TABLE orders
MODIFY odr_date DATE DEFAULT SYSDATE;
```

Adding a check constraint

1. Run the DESCRIBE command on the customers table to view its structure.
2. **Task**: Add a check constraint that will not allow the customers current balance to go below zero.
3. Run the DESCRIBE command again to verify the command was successful.
4. A check constraint is not shown in the results of a describe command.
   a. Go to the Object Browser
   b. Select the customers table.
   c. Click on the CONSTRAINTS tab.
   d. You will see your constraint here.

```
CREATE TABLE customers (
    ctr_number          VARCHAR2(6) NOT NULL,
    email               VARCHAR2(50) NOT NULL,
    first_name          VARCHAR2(20) NOT NULL,
    last_name           VARCHAR2(30) NOT NULL,
    phone_number        VARCHAR2(11) NOT NULL,
    current_balance     NUMBER(6,2) NOT NULL,
    sre_id              VARCHAR2(4),
    tem_id              VARCHAR2(4),
    loyalty_card_number VARCHAR2(6),
    CONSTRAINT customer_pk PRIMARY KEY ( ctr_number ),
    CONSTRAINT ctr_email_uk UNIQUE (email),
    CONSTRAINT ctr_lcn_uk UNIQUE (loyalty_card_number)
);

ALTER TABLE customer
ADD CONSTRAINT current_balance_min CHECK (current_balance > 0);
```

Adding a column

The client has decided that they would like a separate s mobile phone number. This is an optional column that will be required to store 11 digit

1. Run the DESCRIBE command on the customer e.
2. **Task**: Add column that will satisfy the clients r
3. Run the DESCRIBE command on the customer e.

```
ALTER TABLE customers
ADD mobile_phone_number    NUMBER(11);
```

Dropping a column

The client has decided that they don't need the mobile number col single contact number and that is already catered for with the exist

1. Run the DESCRIBE command on the customers table to view its st
2. **Task**: Drop the column that was created to store the mobile phor
3. Run the DESCRIBE command on the customers table to view its st

```
ALTER TABLE customers
DROP (mobile_phone_number);

DESCRIBE customers;
```

Column	Null?	Type
CTR_NUMBER	NOT NULL	VARCHAR2(6)
EMAIL	NOT NULL	VARCHAR2(50)
FIRST_NAME	NOT NULL	VARCHAR2(20)
LAST_NAME	NOT NULL	VARCHAR2(30)
PHONE_NUMBER	NOT NULL	VARCHAR2(11)
CURRENT_BALANCE	NOT NULL	NUMBER(6,2)
SRE_ID	-	VARCHAR2(4)
TEM_ID	-	VARCHAR2(4)
LOYALTY_CARD_NUMBER	-	VARCHAR2(6)