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### LAB1 DB

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
- 2. How many columns are created for the price history table?
- 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? customer\_address\_customer\_fk
  - 5. What are the lowest and highest values that can be stored in the commission\_rate column for the sales\_representatives table? Lowest = 0

Highest = 99

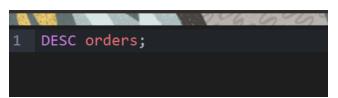
6. What are the lowest and highest values that can be stored in the price column for the price\_history table? Lowest = -99999.9
Highest = 99999.9

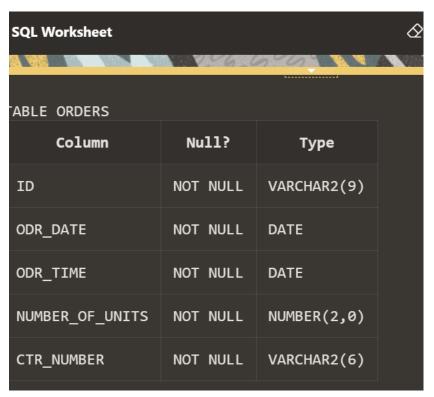
7. What are the 3 columns that make up the primary key for the price\_history table? itm\_number, start\_date, and start\_time.

#### **Part 2: Updating Constraints**

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

#### Modifying a column



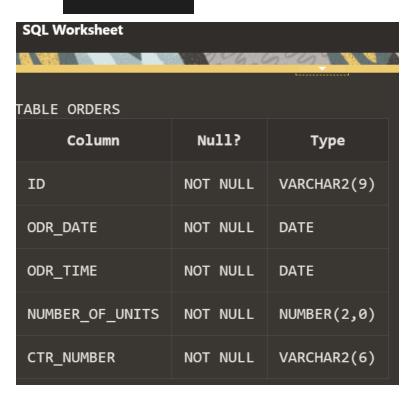


2. **Task**: Add a default constraint that will use todays date to assign a value to the odr\_date column of the orders table if no date is provided.

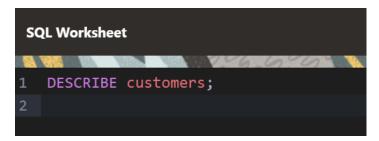


3. Run the DESCRIBE command again to verify the command was successful.

DESC orders;



#### Adding a check constraint



SQL Worksheet		♦ \$
TABLE CUSTOMERS		
Column	Null?	Туре
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)

2. Task: Add a check constraint that will not allow the customers current balance to go below zero.



Schema \

# **CUSTOMERS**

Show All Columns **Constraints** Related Constraints Triggers Indexes Code

#### Constraints

Constraint	Туре	Condition	Related Constraint	Related Table
CHK_CURRENT_BALANCE	Check	current_balance >= 0		
SYS_C00145307845	Check	"CTR_NUMBER" IS NOT NULL		
SYS_C00145307846	Check	"EMAIL" IS NOT NULL		
SYS_C00145307847	Check	"FIRST_NAME" IS NOT NULL		
SYS_C00145307848	Check	"LAST_NAME" IS NOT NULL		
SYS_C00145307849	Check	"PHONE_NUMBER" IS NOT NULL		
SYS_C00145307850	Check	"CURRENT_BALANCE" IS NOT NULL		
CUSTOMER_SALES_REP_FK	Foreign Key		SALES_REPRESENTATIVE_PK	SALES_REPRESENTATIVE
CUSTOMER_TEAM_FK	Foreign Key		TEAM_PK	TEAMS
CUSTOMER_PK	Primary Key			
CTR_EMAIL_UK	Unique Key			
CTR_LCN_UK	Unique Key			

```
SQL Worksheet

ALTER TABLE customers ADD CONSTRAINT chk current balance CHECK (current balance >= 0);

Table altered.
```

3. Run the DESCRIBE command again to verify the command was successful.

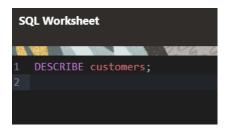


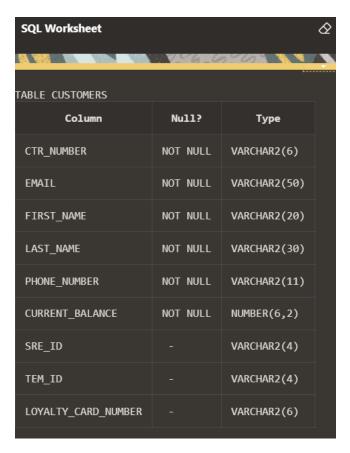
TABLE CUSTOMERS				
Column	Null?	Туре		
CTR_NUMBER	NOT NULL	VARCHAR2(6)		
EMAIL	NOT NULL	VARCHAR2(50)		
FIRST_NAME	NOT NULL	VARCHAR2(20)		
LAST_NAME	NOT NULL	VARCHAR2(30)		
PHONE_NUMBER	NOT NULL	VARCHAR2(11)		
CURRENT_BALANCE	NOT NULL	NUMBER(6,2)		
SRE_ID		VARCHAR2(4)		
TEM_ID		VARCHAR2(4)		
LOYALTY_CARD_NUMBER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

- 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.

Constraints					
Constraint	Туре	Condition	Related Constraint	Related Table	Constraint Columns
CHK_CURRENT_BALANCE	Check	current_balance >= 0			
SYS_C00145307845	Check	"CTR_NUMBER" IS NOT NULL			
SYS_C00145307846	Check	"EMAIL" IS NOT NULL			
SYS_C00145307847	Check	"FIRST_NAME" IS NOT NULL			
SYS_C00145307848	Check	"LAST_NAME" IS NOT NULL			
SYS_C00145307849	Check	"PHONE_NUMBER" IS NOT NULL			
SYS_C00145307850	Check	"CURRENT_BALANCE" IS NOT NULL			
CUSTOMER_SALES_REP_FK	Foreign Key		SALES_REPRESENTATIVE_PK	SALES_REPRESENTATIVES	SRE_ID
CUSTOMER_TEAM_FK	Foreign Key		TEAM_PK	TEAMS	TEM_ID
CUSTOMER_PK	Primary Key				CUSTOMER_ID
CTR_EMAIL_UK	Unique Key				EMAIL
CTR_LCN_UK	Unique Key				LOYALTY_CARD_NUMBER

#### Adding a column

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



2. **Task**: Add column that will satisfy the clients requirements

```
1 ALTER TABLE customers ADD mobile phone number VARCHAR2(11) NULL;
2
3
Table altered.
```

TABLE CUSTOMERS			
Column	Null?	Туре	
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)	
MOBILE_PHONE_NUMBER		VARCHAR2(11)	
<u> </u>			

## Dropping a column

The client has decided that they don't need the mobile number column as most customers only provide a single contact number and that is already catered for with the existing phone\_number column.

1. Run the DESCRIBE command on the customers table to view its structure.

TABLE CUSTOMERS				
Column	Null?	Туре		
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)		
MOBILE_PHONE_NUMBER		VARCHAR2(11)		

2. **Task**: Drop the column that was created to store the mobile phone number.

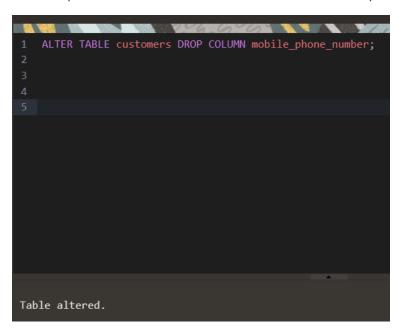


TABLE CUSTOMERS		
Column	Null?	Туре
CTR_NUMBER	NOT NULL	VARCHAR2(6)
EMAIL	NOT NULL	VARCHAR2(50)
FIRST_NAME	NOT NULL	VARCHAR2(20)
LAST_NAME	NOT NULL	VARCHAR2(30)
PHONE_NUMBER	NOT NULL	VARCHAR2(11)
CURRENT_BALANCE	NOT NULL	NUMBER(6,2)
SRE_ID		VARCHAR2(4)
TEM_ID		VARCHAR2(4)
LOYALTY_CARD_NUMBER		VARCHAR2(6)

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