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## LAB 1 DDL

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<b>Course Code</b>	SEDC2523
<b>Course Name</b>	Database
<b>Section</b>	08

## Section 6 Lesson 3 Exercise : Data Definition Language

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” statement

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 : -99

Highest: 99

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

Lowest : -99999.99

Highest : 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.

Results Explain Describe Saved SQL History

Object Type TABLE ? Object ORDERS ?

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
ORDERS	ID	VARCHAR2	9	-	-	1	-	-	-
	ODR_DATE	DATE	7	-	-	-	-	-	-
	ODR_TIME	DATE	7	-	-	-	-	-	-
	NUMBER_OF_UNITS	NUMBER	-	2	0	-	-	-	-
	CTR_NUMBER	VARCHAR2	6	-	-	-	-	-	-

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

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

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

Results

Explain

Describe

Saved SQL

History

Object Type

TABLE ?

Object

ORDERS ?

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
ORDERS	ID	VARCHAR2	9	-	-	1	-	-	-
	ODR_DATE	DATE	7	-	-	-	-	-	-
	ODR_TIME	DATE	7	-	-	-	-	SYSDATE	-
	NUMBER_OF_UNITS	NUMBER	-	2	0	-	-	-	-
	CTR_NUMBER	VARCHAR2	6	-	-	-	-	-	-

## Adding a check constraint

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

1 DESCRIBE customers									
Results Explain Describe Saved SQL History									
Object Type TABLE ?		Object CUSTOMERS ?							
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMERS	CTR_NUMBER	VARCHAR2	6	-	-	1	-	-	-
	EMAIL	VARCHAR2	50	-	-	-	-	-	-
	FIRST_NAME	VARCHAR2	20	-	-	-	-	-	-
	LAST_NAME	VARCHAR2	30	-	-	-	-	-	-
	PHONE_NUMBER	VARCHAR2	11	-	-	-	-	-	-
	CURRENT_BALANCE	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.

```
1 ALTER TABLE customers ADD CONSTRAINT min_current_balance CHECK (current_balance >=0)
```

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

1 DESCRIBE customers									
Results Explain Describe Saved SQL History									
Object Type		TABLE ?		Object		CUSTOMERS ?			
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMERS	CTR_NUMBER	VARCHAR2	6	-	-	1	-	-	-
	EMAIL	VARCHAR2	50	-	-	-	-	-	-
	FIRST_NAME	VARCHAR2	20	-	-	-	-	-	-
	LAST_NAME	VARCHAR2	30	-	-	-	-	-	-
	PHONE_NUMBER	VARCHAR2	11	-	-	-	-	-	-
	CURRENT_BALANCE	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.

- Go to the Object Browser
- Select the customers table.
- Click on the CONSTRAINTS tab.
- You will see your constraint here.

CUSTOMERS						
Columns Data Indexes Constraints Grants Statistics Triggers Dependencies DDL Sample Queries						
+ Create Drop Enable Disable Refresh						
Constraint	Type	Search Condition	Related Constraint	Columns	Delete Rule	Status
MIN_CURRENT_BALANCE	Check	current_balance >=0				ENABLED
SYS_C00151745338	Check	"CTR_NUMBER" IS NOT NULL				ENABLED
SYS_C00151745339	Check	"EMAIL" IS NOT NULL				ENABLED
SYS_C00151745340	Check	"FIRST_NAME" IS NOT NULL				ENABLED
SYS_C00151745341	Check	"LAST_NAME" IS NOT NULL				ENABLED
SYS_C00151745342	Check	"PHONE_NUMBER" IS NOT NULL				ENABLED
SYS_C00151745343	Check	"CURRENT_BALANCE" IS NOT NULL				ENABLED
CUSTOMER_SALES_REP_FK	Foreign		SALES_REPRESENTATIVE_PK ...	SRE_ID	NO ACTION	ENABLED
CUSTOMER_TEAM_FK	Foreign		TEAM_PK (WKSP_YAWRRRK...	TEM_ID	NO ACTION	ENABLED
CUSTOMER_PK	Primary			CTR_NUMBER		ENABLED
CTR_EMAIL_UK	Unique			EMAIL		ENABLED
CTR_LCN_UK	Unique			LOYALTY_CARD_NUMBER		ENABLED

## 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.

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

1 DESCRIBE customers									
Results Explain Describe Saved SQL History									
Object Type		TABLE ?		Object		CUSTOMERS ?			
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMERS	CTR_NUMBER	VARCHAR2	6	-	-	1	-	-	-
	EMAIL	VARCHAR2	50	-	-	-	-	-	-
	FIRST_NAME	VARCHAR2	20	-	-	-	-	-	-
	LAST_NAME	VARCHAR2	30	-	-	-	-	-	-
	PHONE_NUMBER	VARCHAR2	11	-	-	-	-	-	-
	CURRENT_BALANCE	NUMBER	-	6	2	-	-	-	-
	SRE_ID	VARCHAR2	4	-	-	-	✓	-	-
	TEM_ID	VARCHAR2	4	-	-	-	✓	-	-
	LOYALTY_CARD_NUMBER	VARCHAR2	6	-	-	-	✓	-	-

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

```
1 ALTER TABLE customers ADD cust_phone_num VARCHAR2(11);
```

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

1 DESCRIBE customers									
Results Explain Describe Saved SQL History									
Object Type		TABLE ?		Object		CUSTOMERS ?			
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMERS	CTR_NUMBER	VARCHAR2	6	-	-	1	-	-	-
	EMAIL	VARCHAR2	50	-	-	-	-	-	-
	FIRST_NAME	VARCHAR2	20	-	-	-	-	-	-
	LAST_NAME	VARCHAR2	30	-	-	-	-	-	-
	PHONE_NUMBER	VARCHAR2	11	-	-	-	-	-	-
	CURRENT_BALANCE	NUMBER	-	6	2	-	-	-	-
	SRE_ID	VARCHAR2	4	-	-	-	✓	-	-
	TEM_ID	VARCHAR2	4	-	-	-	✓	-	-
	LOYALTY_CARD_NUMBER	VARCHAR2	6	-	-	-	✓	-	-
	CUST_PHONE_NUM	VARCHAR2	11	-	-	-	✓	-	-

## 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.



1 DESCRIBE customers

ResultsExplainDescribeSaved SQLHistory

Object TypeTABLE ?

ObjectCUSTOMERS ?

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMERS	CTR_NUMBER	VARCHAR2	6	-	-	1	-	-	-
	EMAIL	VARCHAR2	50	-	-	-	-	-	-
	FIRST_NAME	VARCHAR2	20	-	-	-	-	-	-
	LAST_NAME	VARCHAR2	30	-	-	-	-	-	-
	PHONE_NUMBER	VARCHAR2	11	-	-	-	-	-	-
	CURRENT_BALANCE	NUMBER	-	6	2	-	-	-	-
	SRE_ID	VARCHAR2	4	-	-	-	✓	-	-
	TEM_ID	VARCHAR2	4	-	-	-	✓	-	-
	LOYALTY_CARD_NUMBER	VARCHAR2	6	-	-	-	✓	-	-
	CUST_PHONE_NUM	VARCHAR2	11	-	-	-	✓	-	-

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

```
1 ALTER TABLE customers DROP (cust_phone_num)
```

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

1 DESCRIBE customers

ResultsExplainDescribeSaved SQLHistory

Object TypeTABLE ?

ObjectCUSTOMERS ?

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMERS	CTR_NUMBER	VARCHAR2	6	-	-	1	-	-	-
	EMAIL	VARCHAR2	50	-	-	-	-	-	-
	FIRST_NAME	VARCHAR2	20	-	-	-	-	-	-
	LAST_NAME	VARCHAR2	30	-	-	-	-	-	-
	PHONE_NUMBER	VARCHAR2	11	-	-	-	-	-	-
	CURRENT_BALANCE	NUMBER	-	6	2	-	-	-	-
	SRE_ID	VARCHAR2	4	-	-	-	✓	-	-
	TEM_ID	VARCHAR2	4	-	-	-	✓	-	-
	LOYALTY_CARD_NUMBER	VARCHAR2	6	-	-	-	✓	-	-

