SECD2523

SECTION 10

LECTURER: ROZILAWATI BINTI DOLLAH @ MD ZAIN

PROJECT TITLE:

SQL LAB1

(DDL)

NAME	MATRIC NUMBER
AMIRAH SYAZWANI BINTI SAPUAN	A22EC0139

Part 1: Reading information from a script

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 //tanya

5. What are the lowest and highest values that can be stored in the commission_rate column for the sales_representatives table?
    0-99

6. What are the lowest and highest values that can be stored in the price column for the price_history table?
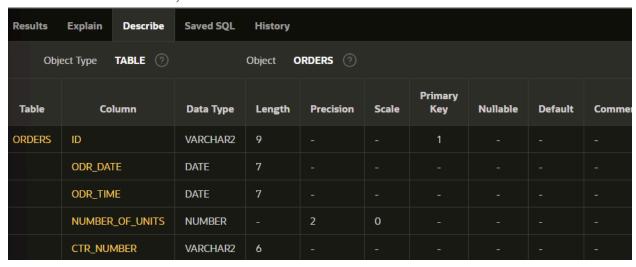   **0000000.00-9999999.99**

7. What are the 3 columns that make up the primary key for the price_history table?
    itm_number, start_date, start_time
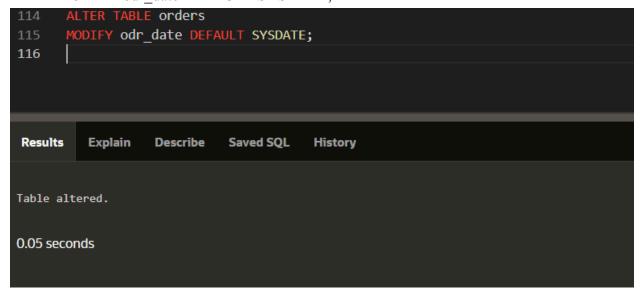
Part 2 : Updating Constraints

Modifying a column
1. Run the DESCRIBE command on the orders table to view its structure.

      DESCRIBE orders;

Results	Explain	**Describe**	Saved SQL	History						

| | Object Type | **TABLE** ⑦ | | | Object | **ORDERS** ⑦ | | | | |

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Commer
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 todays date to assign a value to the odr_date column of the orders table if no date is provided.

      ALTER TABLE orders
      MODIFY odr_date DEFAULT SYSDATE;

```
114    ALTER TABLE orders
115    MODIFY odr_date DEFAULT SYSDATE;
116    |
```

Results	Explain	Describe	Saved SQL	History

Table altered.

0.05 seconds

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

		Results	Explain	**Describe**	Saved SQL	History				
Table	**Column**	**Data Type**	**Length**	**Precision**	**Scale**	**Primary Key**	**Nullable**	**Default**	**Comment**
ORDERS	ID	VARCHAR2	9	-	-	1	-	-	-
	ODR_DATE	DATE	7	-	-	-	-	SYSDATE	-
	ODR_TIME	DATE	7	-	-	-	-	-	-
	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.

   DESCRIBE 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.
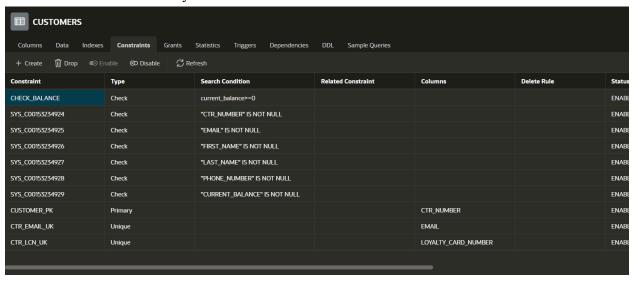
ALTER TABLE customers
ADD CONSTRAINT check_balance CHECK (current_balance>=0);

```
119     ALTER TABLE customers
120     ADD CONSTRAINT check_balance CHECK (current_balance>=0);
121
```

Results   Explain   Describe   Saved SQL   History

Table altered.

0.04 seconds

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

DESCRIBE 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.
   a. Go to the Object Browser
   b. Select the customers table.
   c. Click on the CONSTRAINTS tab.
   d. You will see your constraint here.

CUSTOMERS

Columns   Data   Indexes   **Constraints**   Grants   Statistics   Triggers   Dependencies   DDL   Sample Queries

+ Create   🗑 Drop   Enable   Disable   ⟳ Refresh

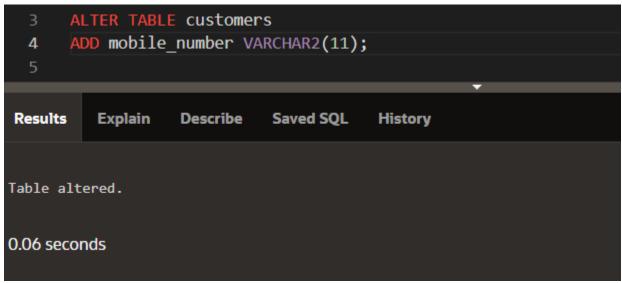| Constraint	Type	Search Condition	Related Constraint	Columns	Delete Rule	Status
CHECK_BALANCE	Check	current_balance>=0				ENABL
SYS_C00153234924	Check	"CTR_NUMBER" IS NOT NULL				ENABL
SYS_C00153234925	Check	"EMAIL" IS NOT NULL				ENABL
SYS_C00153234926	Check	"FIRST_NAME" IS NOT NULL				ENABL
SYS_C00153234927	Check	"LAST_NAME" IS NOT NULL				ENABL
SYS_C00153234928	Check	"PHONE_NUMBER" IS NOT NULL				ENABL
SYS_C00153234929	Check	"CURRENT_BALANCE" IS NOT NULL				ENABL
CUSTOMER_PK	Primary			CTR_NUMBER		ENABL
CTR_EMAIL_UK	Unique			EMAIL		ENABL
CTR_LCN_UK	Unique			LOYALTY_CARD_NUMBER		ENABL

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.

   DESCRIBE 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

    ALTER TABLE customers
    ADD mobile_number VARCHAR2(11);

```
3    ALTER TABLE customers
4    ADD mobile_number VARCHAR2(11);
5
```

Results   Explain   Describe   Saved SQL   History

Table altered.

0.06 seconds

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

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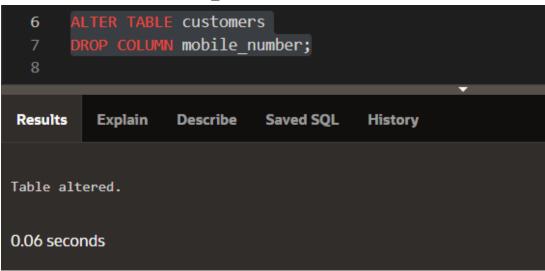
1. Run the DESCRIBE command on the customers table to view its structure.

   DESCRIBE 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	-	-	-	✓	-	-
	MOBILE_NUMBER	VARCHAR2	11	-	-	-	✓	-	-

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

   ALTER TABLE customers
   DROP COLUMN mobile_number;

```
6    ALTER TABLE customers
7    DROP COLUMN mobile_number;
8
```

Results   Explain   Describe   Saved SQL   History

Table altered.

0.06 seconds

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

   DESCRIBE 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	-	-	-	✓	-	-