



SECD2523 - 08 Database

SEMESTER I, SESSION 2023/2024

LAB 1 – DDL

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Part 1: Reading information from a script

1. How many tables have been created using the CREATE TABLE statement?

There are 10 tables

2. How many columns are created for the price history table?

There are 6 columns

3. What statement is used to enforce the constraint that the category column of the items table must have a value?

The constraints is NOT NULL

4. What is the name of the foreign key constraint between the customers and customer addresses tables?

The foreign key is: 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?

The Lowest value is -99, and the Highest value is 99

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

The Lowest value is -99999.99, and the Highest value is 99999.99

7. What are the 3 columns that make up the primary key for the price history table?

The 3 columns are:

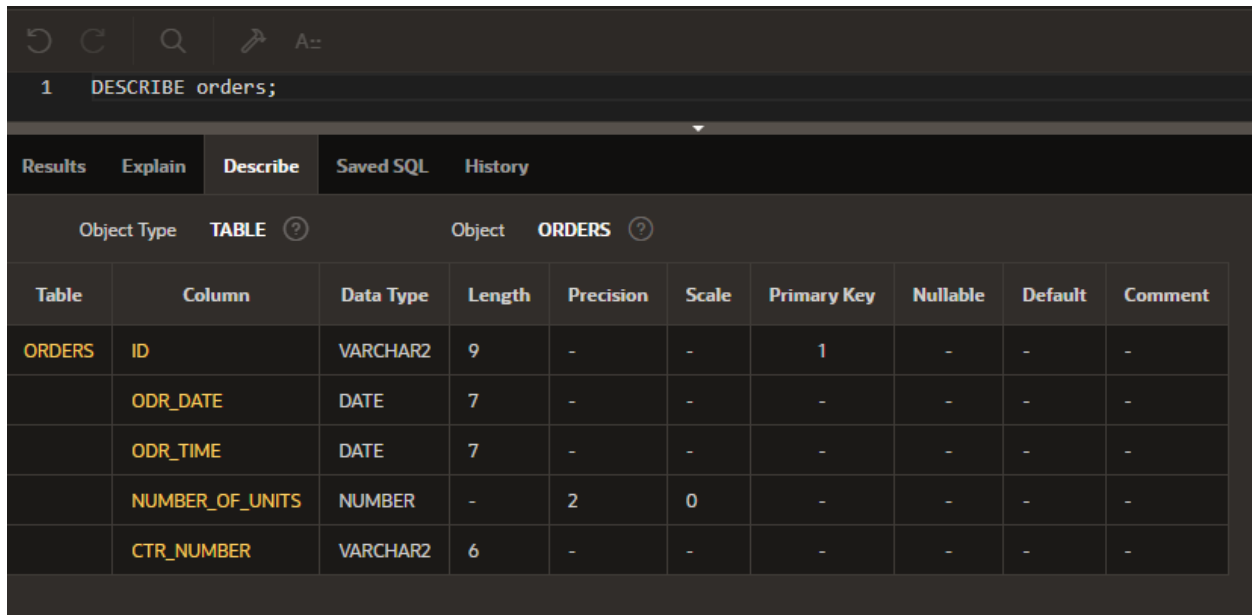
itm_number

start_date

start_time

Part 2: Updating Constraints

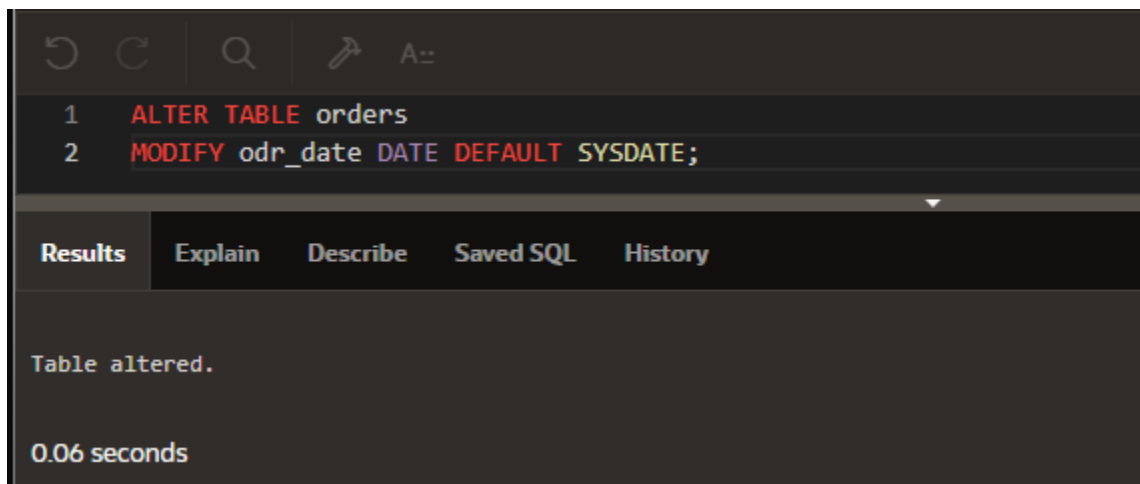
1. Run the DESCRIBE command on the orders table to view its structure.



The screenshot shows a SQL IDE interface. At the top, there is a toolbar with icons for undo, redo, search, and a command prompt. Below the toolbar, the command prompt contains the text "1 DESCRIBE orders;". The main area displays the results of the command in a tabular format. The tabs at the top are "Results", "Explain", "Describe", "Saved SQL", and "History". The "Describe" tab is selected. The table shows the structure of the "ORDERS" table, including columns, data types, lengths, and constraints.

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	-	-	-	-	-	-

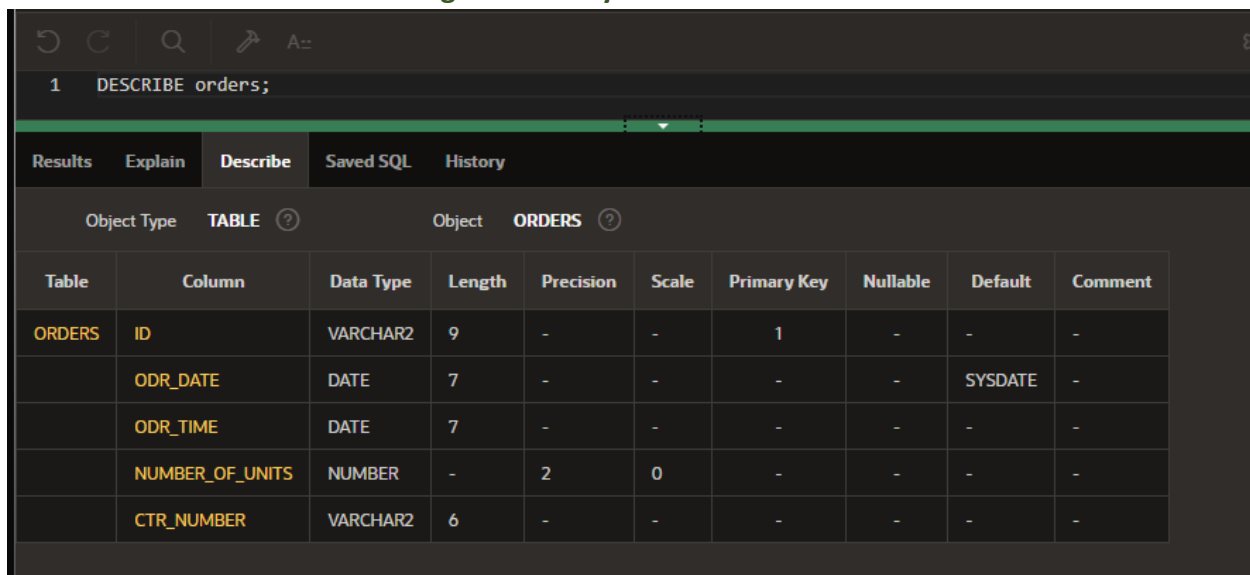
2. Task: Add a default constraint that will use today's date to assign a value to the odr_date column of the orders table if no date is provided.



The screenshot shows a SQL IDE interface. At the top, there is a toolbar with icons for undo, redo, search, and a command prompt. Below the toolbar, the command prompt contains the text "1 ALTER TABLE orders" and "2 MODIFY odr_date DATE DEFAULT SYSDATE;". The main area displays the results of the command in a tabular format. The tabs at the top are "Results", "Explain", "Describe", "Saved SQL", and "History". The "Results" tab is selected. The results show "Table altered." and "0.06 seconds".

Results	Explain	Describe	Saved SQL	History
Table altered.				
0.06 seconds				

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

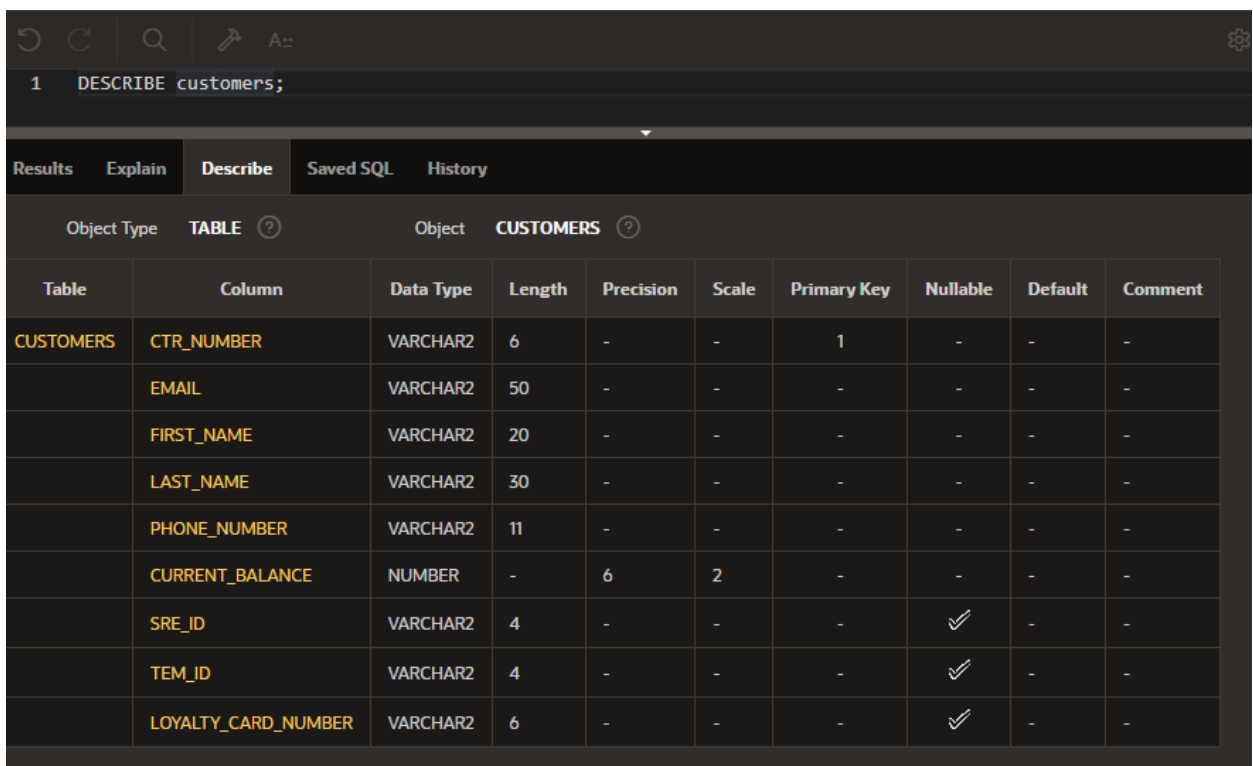


The screenshot shows the SQL Developer interface with the command `DESCRIBE orders;` entered in the SQL window. The Results tab is active, displaying the structure of the `ORDERS` table. The table has 10 columns: `ID` (VARCHAR2, 9, Primary Key), `ODR_DATE` (DATE, 7, Default SYSDATE), `ODR_TIME` (DATE, 7), `NUMBER_OF_UNITS` (NUMBER, 2, 0), and `CTR_NUMBER` (VARCHAR2, 6).

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.



The screenshot shows the SQL Developer interface with the command `DESCRIBE customers;` entered in the SQL window. The Results tab is active, displaying the structure of the `CUSTOMERS` table. The table has 10 columns: `CTR_NUMBER` (VARCHAR2, 6, Primary Key), `EMAIL` (VARCHAR2, 50), `FIRST_NAME` (VARCHAR2, 20), `LAST_NAME` (VARCHAR2, 30), `PHONE_NUMBER` (VARCHAR2, 11), `CURRENT_BALANCE` (NUMBER, 6, 2), `SRE_ID` (VARCHAR2, 4, Check Constraint), `TEM_ID` (VARCHAR2, 4, Check Constraint), and `LOYALTY_CARD_NUMBER` (VARCHAR2, 6, Check Constraint).

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	-	-	-	✓	-	-

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

```
1 ALTER TABLE customers
2 ADD CONSTRAINT cust_current_balance
3 CHECK (current_balance >= 0)
```

Results Explain Describe Saved SQL History

Table altered.

0.04 seconds

- 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.

The screenshot shows the Object Browser interface. On the left, the 'Tables' folder is expanded, and the 'CUSTOMERS' table is selected. The 'CONSTRAINTS' tab is active for the 'CUSTOMERS' table. The table of constraints is displayed below the tabs.

Constraint	Type	Search Condition
CUST_CURRENT_BALANCE	Check	current_balance>=0
SYS_C00151715172	Check	"CTR_NUMBER" IS NOT NULL
SYS_C00151715173	Check	"EMAIL" IS NOT NULL
SYS_C00151715174	Check	"FIRST_NAME" IS NOT NULL
SYS_C00151715175	Check	"LAST_NAME" IS NOT NULL
SYS_C00151715176	Check	"PHONE_NUMBER" IS NOT NULL
SYS_C00151715177	Check	"CURRENT_BALANCE" IS NOT NULL
CUSTOMER_PK	Primary	
CTR_EMAIL_UK	Unique	
CTR_LCN_UK	Unique	