Pua Zhi Ying A22EC0103 — Database Lab 1

Part 1: Reading information from a script ("oblsports.ddl")

1. How many tables have been created using the CREATE TABLE statement?
   10 tables, namely inventory_list, items, price_history, sales_representatives, sales_rep_addresses, teams, customers, customers_addresses, orders, ordered_items

2. How many columns are created for the price history table?
   6 columns, namely start_date, start_time, price, end_date, end_time, itm_number

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 is -99, highest is 99

6. What are the lowest and highest values that can be stored in the price column for the price_history table?
   Lowest is -99999.99, highest is 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

Modifying a column

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

   DESCRIBE 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 todays date to assign a value to the odr_date column of the orders table if no date is provided

   ALTER TABLE order MODIFY odr_date DEFAULT SYSDATE;

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

   DESCRIBE orders;

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

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

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

DESCRIBE customers;

Object Type	**TABLE** ⑦			Object	**CUSTOMERS** ⑦				

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 customer_balance_chk CHECK (current_balance >= 0);

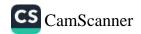3. Run the DESCRIBE command again to verify the command was successful.

DESCRIBE customers;

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

Constraint	Type	Search Condition	Related Constraint	Columns	Delete Rule
CUSTOMER_BALANCE_CHK	Check	current_balance >= 0			

Adding a column

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

DESCRIBE customers;

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

ALTER TABLE customers ADD mobile_phone_number VARCHAR(11);

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_PHONE_NUMBER	VARCHAR2	11	-	-	-	✔	-	-

Dropping a 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_PHONE_NUMBER	VARCHAR2	11	-	-	-	✓	-	-

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

ALTER TABLE customers DROP COLUMN mobile_phone_number;

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

DESCRIBE customers;

Object Type	TABLE ②		Object	CUSTOMERS ②						

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	-	-	-	✓	-	-