

Part 1: Reading information from a script ("obisports.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 today's 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** ?

Object **ORDERS** ?

| 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;

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.

```
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 | | | |

No:

Date:

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** ?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 | - | - | - | ✓ | - | - |