



SECD2523 DATABASE (02)

LAB EXERCISE 1

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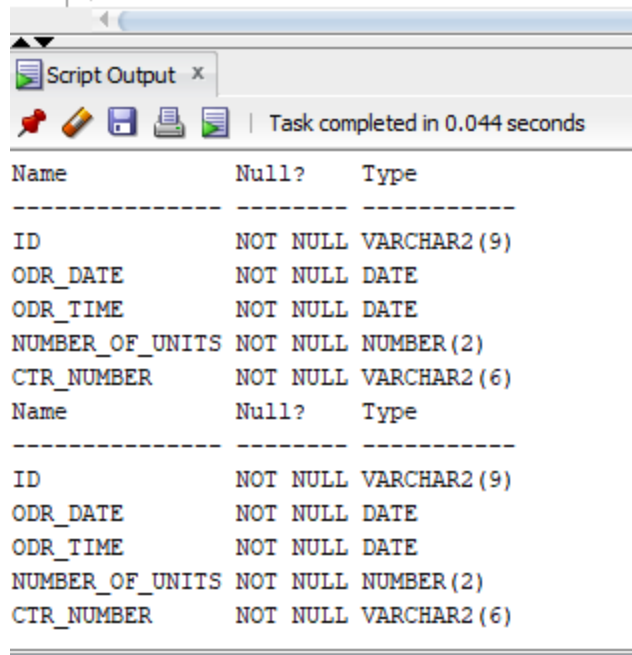
Part 1

1. 10 tables.
2. 6 columns.
3. NOT NULL
4. CTR_NUMBER
5. Lowest value is -99, highest value is 99.
6. Lowest value is -9999999.99, highest value is 9999999.99.
7. Int_number, start_date, start_time

Part 2

Modifying a column

```
DESCRIBE orders;  
ALTER TABLE orders  
MODIFY odr_date DATE DEFAULT SYSDATE;  
DESCRIBE orders;
```



The screenshot shows a 'Script Output' window with a toolbar containing icons for a pin, pencil, save, print, and a document. A status bar at the top of the window indicates 'Task completed in 0.044 seconds'. The output displays the schema of the 'orders' table before and after a modification.

Name	Null?	Type
-----	-----	-----
ID	NOT NULL	VARCHAR2 (9)
ODR_DATE	NOT NULL	DATE
ODR_TIME	NOT NULL	DATE
NUMBER_OF_UNITS	NOT NULL	NUMBER (2)
CTR_NUMBER	NOT NULL	VARCHAR2 (6)
Name	Null?	Type
-----	-----	-----
ID	NOT NULL	VARCHAR2 (9)
ODR_DATE	NOT NULL	DATE
ODR_TIME	NOT NULL	DATE
NUMBER_OF_UNITS	NOT NULL	NUMBER (2)
CTR_NUMBER	NOT NULL	VARCHAR2 (6)

Adding a check constraint

Before adding:

```
CREATE TABLE customers (  
    ctr_number          VARCHAR2(6) NOT NULL,  
    email               VARCHAR2(50) NOT NULL,  
    first_name          VARCHAR2(20) NOT NULL,  
    last_name           VARCHAR2(30) NOT NULL,  
    phone_number        VARCHAR2(11) NOT NULL,  
    current_balance     NUMBER(6,2) NOT NULL,  
    sre_id              VARCHAR2(4),  
    tem_id              VARCHAR2(4),  
    loyalty_card_number VARCHAR2(6),  
    CONSTRAINT customer_pk PRIMARY KEY ( ctr_number ),  
    CONSTRAINT ctr_email_uk UNIQUE (email),  
    CONSTRAINT ctr_lcn_uk UNIQUE (loyalty_card_number)  
);  
  
DESCRIBE customers;
```

Script Output x

Task completed in 0.037 seconds

Name	Null?	Type
CTR_NUMBER	NOT NULL	VARCHAR2(6)
EMAIL	NOT NULL	VARCHAR2(50)
FIRST_NAME	NOT NULL	VARCHAR2(20)
LAST_NAME	NOT NULL	VARCHAR2(30)
PHONE_NUMBER	NOT NULL	VARCHAR2(11)
CURRENT_BALANCE	NOT NULL	NUMBER(6,2)
SRE_ID		VARCHAR2(4)
TEM_ID		VARCHAR2(4)
LOYALTY_CARD_NUMBER		VARCHAR2(6)

After adding:

```
CREATE TABLE customers (  
    ctr_number          VARCHAR2(6) NOT NULL,  
    email               VARCHAR2(50) NOT NULL,  
    first_name          VARCHAR2(20) NOT NULL,  
    last_name           VARCHAR2(30) NOT NULL,  
    phone_number        VARCHAR2(11) NOT NULL,  
    current_balance     NUMBER(6,2) NOT NULL,  
    sre_id              VARCHAR2(4),  
    tem_id              VARCHAR2(4),  
    loyalty_card_number VARCHAR2(6),  
    CONSTRAINT customer_pk PRIMARY KEY ( ctr_number ),  
    CONSTRAINT ctr_email_uk UNIQUE (email),  
    CONSTRAINT ctr_lcn_uk UNIQUE (loyalty_card_number)  
);  
  
ALTER TABLE customers  
ADD CONSTRAINT check_balance_positive CHECK (current_balance>=0);  
DESCRIBE customers;
```

Script Output x

Task completed in 0.034 seconds

Name	Null?	Type
CTR_NUMBER	NOT NULL	VARCHAR2(6)
EMAIL	NOT NULL	VARCHAR2(50)
FIRST_NAME	NOT NULL	VARCHAR2(20)
LAST_NAME	NOT NULL	VARCHAR2(30)
PHONE_NUMBER	NOT NULL	VARCHAR2(11)
CURRENT_BALANCE	NOT NULL	NUMBER(6,2)
SRE_ID		VARCHAR2(4)
TEM_ID		VARCHAR2(4)
LOYALTY_CARD_NUMBER		VARCHAR2(6)

Adding a column

Before adding:

```
CREATE TABLE customers (  
    ctr_number          VARCHAR2(6) NOT NULL,  
    email               VARCHAR2(50) NOT NULL,  
    first_name          VARCHAR2(20) NOT NULL,  
    last_name           VARCHAR2(30) NOT NULL,  
    phone_number        VARCHAR2(11) NOT NULL,  
    current_balance     NUMBER(6,2) NOT NULL,  
    sre_id              VARCHAR2(4),  
    tem_id              VARCHAR2(4),  
    loyalty_card_number VARCHAR2(6),  
    CONSTRAINT customer_pk PRIMARY KEY ( ctr_number ),  
    CONSTRAINT ctr_email_uk UNIQUE (email),  
    CONSTRAINT ctr_lcn_uk UNIQUE (loyalty_card_number)  
);  
  
DESCRIBE customers;
```

Script Output x

Task completed in 0.037 seconds

Name	Null?	Type
CTR_NUMBER	NOT NULL	VARCHAR2(6)
EMAIL	NOT NULL	VARCHAR2(50)
FIRST_NAME	NOT NULL	VARCHAR2(20)
LAST_NAME	NOT NULL	VARCHAR2(30)
PHONE_NUMBER	NOT NULL	VARCHAR2(11)
CURRENT_BALANCE	NOT NULL	NUMBER(6,2)
SRE_ID		VARCHAR2(4)
TEM_ID		VARCHAR2(4)
LOYALTY_CARD_NUMBER		VARCHAR2(6)

After adding:

```
CREATE TABLE customers (  
    ctr_number          VARCHAR2(6) NOT NULL,  
    email               VARCHAR2(50) NOT NULL,  
    first_name          VARCHAR2(20) NOT NULL,  
    last_name           VARCHAR2(30) NOT NULL,  
    phone_number        VARCHAR2(11) NOT NULL,  
    current_balance     NUMBER(6,2) NOT NULL,  
    sre_id              VARCHAR2(4),  
    tem_id              VARCHAR2(4),  
    loyalty_card_number VARCHAR2(6),  
    CONSTRAINT customer_pk PRIMARY KEY ( ctr_number ),  
    CONSTRAINT ctr_email_uk UNIQUE (email),  
    CONSTRAINT ctr_lcn_uk UNIQUE (loyalty_card_number)  
);  
  
DESCRIBE customers;  
ALTER TABLE customers  
ADD mobile_phone_number VARCHAR2(11);  
DESCRIBE customers;
```

Script Output x

Task completed in 0.032 seconds

Trigger FKNTM_ORDERS compiled

Name	Null?	Type
CTR_NUMBER	NOT NULL	VARCHAR2(6)
EMAIL	NOT NULL	VARCHAR2(50)
FIRST_NAME	NOT NULL	VARCHAR2(20)
LAST_NAME	NOT NULL	VARCHAR2(30)
PHONE_NUMBER	NOT NULL	VARCHAR2(11)
CURRENT_BALANCE	NOT NULL	NUMBER(6,2)
SRE_ID		VARCHAR2(4)
TEM_ID		VARCHAR2(4)
LOYALTY_CARD_NUMBER		VARCHAR2(6)
MOBILE_PHONE_NUMBER		VARCHAR2(11)

Dropping a column

Before dropping:

```
CREATE TABLE customers (  
    ctr_number          VARCHAR2(6) NOT NULL,  
    email               VARCHAR2(50) NOT NULL,  
    first_name          VARCHAR2(20) NOT NULL,  
    last_name           VARCHAR2(30) NOT NULL,  
    phone_number        VARCHAR2(11) NOT NULL,  
    current_balance     NUMBER(6,2) NOT NULL,  
    sre_id              VARCHAR2(4),  
    tem_id              VARCHAR2(4),  
    loyalty_card_number VARCHAR2(6),  
    CONSTRAINT customer_pk PRIMARY KEY ( ctr_number ),  
    CONSTRAINT ctr_email_uk UNIQUE (email),  
    CONSTRAINT ctr_lcn_uk UNIQUE (loyalty_card_number)  
);  
  
DESCRIBE customers;
```

Script Output x

Task completed in 0.04 seconds

Name	Null?	Type
CTR_NUMBER	NOT NULL	VARCHAR2(6)
EMAIL	NOT NULL	VARCHAR2(50)
FIRST_NAME	NOT NULL	VARCHAR2(20)
LAST_NAME	NOT NULL	VARCHAR2(30)
PHONE_NUMBER	NOT NULL	VARCHAR2(11)
CURRENT_BALANCE	NOT NULL	NUMBER(6,2)
SRE_ID		VARCHAR2(4)
TEM_ID		VARCHAR2(4)
LOYALTY_CARD_NUMBER		VARCHAR2(6)
MOBILE_PHONE_NUMBER		VARCHAR2(11)

After dropping:

```
CREATE TABLE customers (  
    ctr_number          VARCHAR2(6) NOT NULL,  
    email               VARCHAR2(50) NOT NULL,  
    first_name          VARCHAR2(20) NOT NULL,  
    last_name           VARCHAR2(30) NOT NULL,  
    phone_number        VARCHAR2(11) NOT NULL,  
    current_balance     NUMBER(6,2) NOT NULL,  
    sre_id              VARCHAR2(4),  
    tem_id              VARCHAR2(4),  
    loyalty_card_number VARCHAR2(6),  
    CONSTRAINT customer_pk PRIMARY KEY ( ctr_number ),  
    CONSTRAINT ctr_email_uk UNIQUE (email),  
    CONSTRAINT ctr_lcn_uk UNIQUE (loyalty_card_number)  
);  
  
DESCRIBE customers;  
ALTER TABLE customers  
DROP (mobile_phone_number);  
DESCRIBE customers;
```

Script Output x

Task completed in 0.043 seconds

Name	Null?	Type
CTR_NUMBER	NOT NULL	VARCHAR2(6)
EMAIL	NOT NULL	VARCHAR2(50)
FIRST_NAME	NOT NULL	VARCHAR2(20)
LAST_NAME	NOT NULL	VARCHAR2(30)
PHONE_NUMBER	NOT NULL	VARCHAR2(11)
CURRENT_BALANCE	NOT NULL	NUMBER(6,2)
SRE_ID		VARCHAR2(4)
TEM_ID		VARCHAR2(4)
LOYALTY_CARD_NUMBER		VARCHAR2(6)