

Assignment 1

(DFo_6_3_Project)

Database-07

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Part 1: Reading information from a script

In this exercise you will use the “obl Sports.ddl” file to consolidate your knowledge of DDL.

Open the “obl Sports.ddl” in a text editor.

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

There are 10 CREATE TABLE statements:

```
CREATE TABLE sales_rep_addresses (
  id          VARCHAR2(4) NOT NULL,
  address_line_1 VARCHAR2(30) NOT NULL,
  address_line_2 VARCHAR2(30),
  city        VARCHAR2(15) NOT NULL,
  zip_code    VARCHAR2(7) NOT NULL,
  CONSTRAINT sales_rep_address_pk PRIMARY KEY ( id )
);

CREATE TABLE teams (
  id          VARCHAR2(4) NOT NULL,
  name        VARCHAR2(20) NOT NULL,
  number_of_players NUMBER(2) NOT NULL,
  discount    NUMBER(2),
  CONSTRAINT team_pk PRIMARY KEY ( id )
);

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)
);

CREATE TABLE customers_addresses (
  id          VARCHAR2(8) NOT NULL,

CREATE TABLE inventory_list (
  id          VARCHAR2(11) NOT NULL,
  cost        NUMBER(7,2) NOT NULL,
  units       NUMBER(4) NOT NULL,
  CONSTRAINT inventory_list_pk PRIMARY KEY ( id )
);

CREATE TABLE items (
  itm_number   VARCHAR2(10) NOT NULL,
  name         VARCHAR2(20) NOT NULL,
  description  VARCHAR2(50) NOT NULL,
  category     VARCHAR2(25) NOT NULL,
  color        VARCHAR2(15),
  "Size"       CHAR(1),
  ilt_id       VARCHAR2(11) NOT NULL,
  CONSTRAINT item_pk PRIMARY KEY ( itm_number )
);

CREATE TABLE price_history (
  start_date   DATE NOT NULL,
  start_time   DATE NOT NULL,
  price        NUMBER(7,2) NOT NULL,
  end_date     DATE,
  end_time     DATE,
  itm_number   VARCHAR2(10) NOT NULL,
  CONSTRAINT price_history_pk PRIMARY KEY ( itm_number, start_date, start_time ),
  CONSTRAINT price_history_items_fk FOREIGN KEY ( itm_number ) REFERENCES items ( itm_number )
);

CREATE TABLE sales_representatives (
  id          VARCHAR2(4) 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,

CREATE TABLE orders (
  id          VARCHAR2(9) NOT NULL,
  odr_date    DATE NOT NULL,
  odr_time    DATE NOT NULL,
  number_of_units NUMBER(2) NOT NULL,
  ctr_number  VARCHAR2(6) NOT NULL,
  CONSTRAINT orders_pk PRIMARY KEY ( id )
);

CREATE TABLE ordered_items (
  quantity_ordered NUMBER(3) NOT NULL,
  quantity_shipped  NUMBER(3) NOT NULL,
  itm_number        VARCHAR2(10) NOT NULL,
  odr_id            VARCHAR2(9) NOT NULL,
  CONSTRAINT ordered_item_pk PRIMARY KEY ( itm_number,odr_id )
);
```

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

There are 6 columns for the price history table

```
CREATE TABLE price_history (  
    start_date DATE NOT NULL,  
    start_time DATE NOT NULL,  
    price NUMBER(7,2) NOT NULL,  
    end_date DATE,  
    end_time DATE,  
    itm_number VARCHAR2(10) NOT NULL,  
    CONSTRAINT price_history_pk PRIMARY KEY ( itm_number, start_date, start_time ),  
    CONSTRAINT price_history_items_fk FOREIGN KEY ( itm_number ) REFERENCES items ( 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?

The Foreign key is (ctr_number) from customers tables

```
ALTER TABLE customers_addresses ADD CONSTRAINT customer_address_customer_fk FOREIGN KEY ( ctr_number )  
REFERENCES customers ( ctr_number );
```

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

The highest: 99, The lowest: 00

```
CREATE TABLE sales_representatives (  
    id VARCHAR2(4) 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,  
    commission_rate NUMBER(2) NOT NULL,  
    supervisor_id VARCHAR2(4) NOT NULL,  
    CONSTRAINT sales_representative_pk PRIMARY KEY ( id ),  
    CONSTRAINT sre_email_uk UNIQUE (email)  
);
```

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

table?

The highest: 99999.99, The lowest: 00000.00

```
CREATE TABLE price_history (  
    start_date DATE NOT NULL,  
    start_time DATE NOT NULL,  
    price NUMBER(7,2) NOT NULL,  
    end_date DATE,  
    end_time DATE,  
    itm_number VARCHAR2(10) NOT NULL,  
    CONSTRAINT price_history_pk PRIMARY KEY ( itm_number, start_date, start_time ),  
    CONSTRAINT price_history_items_fk FOREIGN KEY ( itm_number ) REFERENCES items ( itm_number )  
);
```

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

They are:

Start_date, start_time, itm_number

```
CREATE TABLE price_history (  
    start_date DATE NOT NULL,  
    start_time DATE NOT NULL,  
    price NUMBER(7,2) NOT NULL,  
    end_date DATE,  
    end_time DATE,  
    itm_number VARCHAR2(10) NOT NULL,  
    CONSTRAINT price_history_pk PRIMARY KEY ( itm_number, start_date, start_time ),  
    CONSTRAINT price_history_items_fk FOREIGN KEY ( itm_number ) REFERENCES items ( itm_number )  
);
```

Part 2: Updating Constraints

Modifying a column

```
1 SELECT * FROM orders
2 ALTER TABLE orders MODIFY odr_date DATE DEFAULT SYSDATE
```

ID	ODR_DATE	ODR_TIME	NUMBER_OF_UNITS	CTR_NUMBER
or0101250	17-APR-17	17-APR-17	10	c00001
or0101350	24-MAY-17	24-MAY-17	5	c00001
or0101425	28-MAY-17	28-MAY-17	18	c00103
or0101681	02-JUN-17	02-JUN-17	10	c00001
or0101750	18-JUN-17	18-JUN-17	1	c01986

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5 rows selected.

Adding a check constraint

```
1 SELECT * FROM customers
2
3 ALTER TABLE customers ADD CONSTRAINT min_balance CHECK (current_balance >=0)
4
5 SELECT * FROM customers
6
```

CTR_NUMBER	EMAIL	FIRST_NAME	LAST_NAME	PHONE_NUMBER	CURRENT_BALANCE	SRE_ID	TEM_ID	LOYALTY_CARD_NUMBER
c00001	bob.thornberry@heatmail.com	Robert	Thornberry	01234567898	150	sr01	t001	-
c00012	Jjones@freemail.com	Jennifer	Jones	01505214598	0	-	-	1c1015
c00101	unknown@here.com	John	Doe	03216547808	987.5	sr01	t002	-
c00103	MurciaA@globaltech.com	Andrew	Murcia	07715246890	85	-	-	1c2341
c01986	margal87@delphiview.com	Maria	Galant	01442736589	125.65	sr03	t003	-

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5 rows selected.

Adding a column

1	SELECT * FROM customers	
2	ALTER TABLE customers ADD customers_mobile_number NUMBER (11)	
3	SELECT * FROM customers	
4		
5		

CTR_NUMBER	EMAIL	FIRST_NAME	LAST_NAME	PHONE_NUMBER	CURRENT_BALANCE	SRE_ID	TEM_ID	LOYALTY_CARD_NUMBER	CUSTOMERS_MOBILE_NUMBER
c00001	bob.thornberry@heatmail.com	Robert	Thornberry	01234567898	150	sr01	t001	-	-
c00012	Jjones@freemail.com	Jennifer	Jones	01505214598	0	-	-	lc1015	-
c00101	unknown@here.com	John	Doe	03216547808	987.5	sr01	t002	-	-
c00103	MurciaA@globaltech.com	Andrew	Murcia	07715246890	85	-	-	lc2341	-
c01986	margal87@delphiview.com	Maria	Galant	01442736589	125.65	sr03	t003	-	-

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5 rows selected.

Dropping a column

1	SELECT * FROM customers	
2	ALTER TABLE customers DROP (customers_mobile_number)	
3	SELECT * FROM customers	
4		
5		

CTR_NUMBER	EMAIL	FIRST_NAME	LAST_NAME	PHONE_NUMBER	CURRENT_BALANCE	SRE_ID	TEM_ID	LOYALTY_CARD_NUMBER
c00001	bob.thornberry@heatmail.com	Robert	Thornberry	01234567898	150	sr01	t001	-
c00012	Jjones@freemail.com	Jennifer	Jones	01505214598	0	-	-	lc1015
c00101	unknown@here.com	John	Doe	03216547808	987.5	sr01	t002	-
c00103	MurciaA@globaltech.com	Andrew	Murcia	07715246890	85	-	-	lc2341
c01986	margal87@delphiview.com	Maria	Galant	01442736589	125.65	sr03	t003	-

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5 rows selected.