



**UTM**  
UNIVERSITI TEKNOLOGI MALAYSIA

**SECD2523 DATABASE**  
**SEMESTER 1 SESSION 2023/2024**

**LAB 2**

**DATA MANIPULATION LANGUAGE 1 (DML1)**

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## Database Design Project

### Oracle Baseball League Store Database

#### Project Scenario:

You are a small consulting company specializing in database development. You have just been awarded the contract to develop a data model for a database application system for a small retail store called Oracle Baseball League (OBL).

The Oracle Baseball League store serves the entire surrounding community selling baseball kit. The OBL has two types of customer, there are individuals who purchase items like balls, cleats, gloves, shirts, screen printed t-shirts, and shorts. Additionally customers can represent a team when they purchase uniforms and equipment on behalf of the team.

Teams and individual customers are free to purchase any item from the inventory list, but teams get a discount on the list price depending on the number of players. When a customer places an order we record the order items for that order in our database.

OBL has a team of three sales representatives that officially only call on teams but have been known to handle individual customer complaints.

# Section 6 Lesson 4 Exercise 1: Data Manipulation Language

## Use DML operations to manage database tables (S6L4 Objective 2)

In this exercise you will populate and work with the data that is stored in the database system tables.

### Part 1 : Running a script to populate the tables.

You have to consider the order of the tables when populating them. A table that has a foreign key field cannot be populated before the related table with the primary key.

1. Use the table mapping document and list the order that you would use to populate the tables.
  - [inventory\\_list](#)
  - [items](#)
  - [price\\_history](#)
  - [sales\\_representatives](#)
  - [sales\\_rep\\_addresses](#)
  - [teams](#)
  - [customers](#)
  - [customers\\_addresses](#)
  - [orders](#)
2. Open the “sports data.sql” and look at the order the data is being added there, does your list match? This file can be found in the Section 6 Lesson 4 interaction (sports data.zip) and must first be extracted.
3. Run the “sports data.sql” script in APEX to populate your tables

[Yes, my list match](#)

4. Check that no errors occurred when you ran the script.

30	0.01	INSERT INTO customers (ctr_number, email, first_name, last_n	1 row(s) inserted.	1
Download				
◀ Previous row(s) 16 - 30 of 47 Next ▶				
47	47	0		
Statements Processed	Successful	With Errors		

## Part 2- Inserting rows to the system

1. Add a new team to the system

id	name	Number_of_players	discount
t004	Jets	10	5

```
INSERT INTO teams (id, name, number_of_players, discount)
VALUES('t004', 'Jets', 10, 5);
```

2. Add a new Customer with the following details to the system

ctr number	email	First name	Last name	Phone number	Current balance	Loyalty card number	tem id	sre id
c02001	brianrog@hootech.com	Brian	Rogers	01654564898	-5	lc4587		

```
1 INSERT INTO customers (ctr_number, email, first_name, last_name, phone_number, current_balance, sre_id, tem_id, loyalty_card_number)
2 VALUES('c02001', 'brianrog@hootech.com', 'Brian', 'Rogers', '01654564898', -5, '', '', 'lc4587');
```

Results Explain Describe Saved SQL History

ORA-02290: check constraint (WKSP\_EXERCISE.CHK\_BALANCE) violated

3. This information violates the check constraint that the current balance must not be less than zero. Change the current balance to 50 and rerun the query.

```
1 INSERT INTO customers (ctr_number, email, first_name, last_name, phone_number, current_balance, sre_id, tem_id, loyalty_card_number)
2 VALUES('c02001', 'brianrog@hootech.com', 'Brian', 'Rogers', '01654564898', 50, '', '', 'lc4587');
```

Results Explain Describe Saved SQL History

1 row(s) inserted.

## Section 6 Lesson 4 Exercise 2: Data Manipulation Language

### Use DML operations to manage database tables (S6L4 Objective 2)

In this exercise you will populate and work with the data that is stored in the database system.

#### Part 1- Updating rows to the system

1. Run the following query to view the content of the price\_history table:

```
SELECT start_date, TO_CHAR (start_time, 'HH24:MI:SS'), price, end_date, TO_CHAR  
(end_time, 'HH24:MI') FROM  
price_history;
```

1SELECT start\_date, TO\_CHAR (start\_time, 'HH24:MI:SS'), price, end\_date, TO\_CHAR

2(end\_time, 'HH24:MI') FROM price\_history;

Results

Explain

Describe

Saved SQL

History

START_DATE	TO_CHAR(START_TIME,'HH24:MI:SS')	PRICE	END_DATE	TO_CHAR(END_TIME,'HH24:MI')
06/17/2017	09:00:00	4.99	-	-
11/25/2016	09:00:00	14.99	01/25/2017	17:00
01/25/2017	17:01:00	8.99	01/25/2017	19:00
01/26/2017	09:00:00	15.99	-	-
02/12/2017	12:30:00	7.99	-	-
04/25/2017	10:10:10	24.99	-	-
05/31/2017	16:35:30	14.9	-	-

2. Obl is going to update the price of the premium bat so you will need to write a query that will close off the current price by adding the system date values to the end\_date and end\_time fields. To run this query you will need to both match the item number and identify that the end date is null. This ensures that you are updating the latest price.

```
UPDATE price_history  
SET end_date = SYSDATE, end_time = SYSDATE  
WHERE itm_number = 'im01101044' AND end_date IS NULL;
```

3. Rerun the select statement on the price\_history table to ensure that the statement has been executed.

1 SELECT start\_date, TO\_CHAR (start\_time, 'HH24:MI:SS'), price, end\_date, TO\_CHAR

2 (end\_time, 'HH24:MI') FROM price\_history;

3

Results

Explain

Describe

Saved SQL

History

START_DATE	TO_CHAR(START_TIME,'HH24:MI:SS')	PRICE	END_DATE	TO_CHAR(END_TIME,'HH24:MI')
06/17/2017	09:00:00	4.99	12/23/2023	10:02
11/25/2016	09:00:00	14.99	01/25/2017	17:00
01/25/2017	17:01:00	8.99	01/25/2017	19:00
01/26/2017	09:00:00	15.99	-	-
02/12/2017	12:30:00	7.99	-	-
04/25/2017	10:10:10	24.99	-	-

- Insert a new row that will use the current date and time to set the new price of the premium bat to be 99.99.

```
INSERT INTO price_history (start_date, start_time, price, itm_number)
VALUES (SYSDATE, SYSDATE, 99.99, 'im01101045');
```

- Rerun the select statement on the price\_history table to ensure that the statement has been executed.

```
1 SELECT start_date, TO_CHAR (start_time, 'HH24:MI:SS'), price, end_date, TO_CHAR
2 (end_time, 'HH24:MI') FROM price_history;
3
```

Results	Explain	Describe	Saved SQL	History
01/25/2017		17:01:00	8.99	01/25/2017 19:00
01/26/2017		09:00:00	15.99	- -
02/12/2017		12:30:00	7.99	- -
04/25/2017		10:10:10	24.99	- -
05/31/2017		16:35:30	14.9	- -
12/23/2023		10:05:25	99.99	- -

8 rows returned in 0.01 seconds [Download](#)

## Part 2: Deleting rows from the system

- Bob Thornberry has contacted Obl to ask that the 83 Barrhill Drive address be removed from the system as he can longer receive parcels at this address. Write a SQL statement that will remove this address from the system.

```
DELETE FROM customers_addresses
WHERE address_line_1 = '83 Barrhill Drive';
```

- Run a select statement on the customers\_addresses table to ensure that the statement has been executed.

1

SELECT \* FROM customers\_addresses

Results

Explain

Describe

Saved SQL

History

ID	ADDRESS_LINE_1	ADDRESS_LINE_2	CITY	ZIP_CODE	CTR_NUMBER
ca0102	17 Gartsquare Road	Starford	Liverpool	LP89JHK	c00001
ca0103	54 Ropehill Crescent	Georgetown	Star	ST45AGV	c00101
ca0104	36 Watercress Lane	-	Jump	JP23YTH	c01986
ca0105	63 Acacia Drive	Skins	Liverpool	LP83JHR	c00001

4 rows returned in 0.01 seconds

Download