



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

FACULTY OF COMPUTING
UTM Johor Bahru

SESSION 2023/2024 SEMESTER 1

SECD2523
DATABASE

LAB EXERCISE : SQL DML1

NAME
NURAISSA SALSABILA BINTI MOHD FADZAL

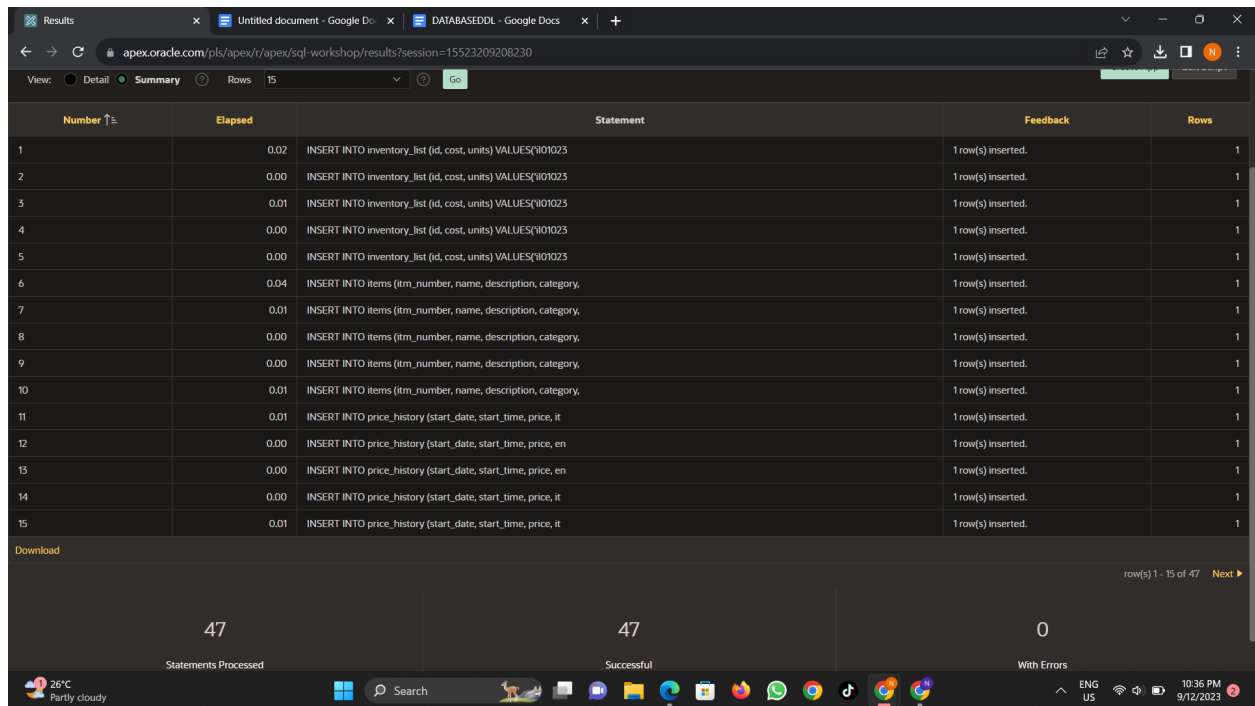
MATRIC NO
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LECTURER'S NAME
DR. ROZILAWATI BINTI DOLLAH

SECTION
10

Section 6 Lesson 4 Exercise 1: Data Manipulation Language

Part 1 : Running a script to populate the tables.



The screenshot shows the Oracle APEX SQL Workshop Results page. The table displays 15 rows of execution results, all successful. The columns are Number, Elapsed, Statement, Feedback, and Rows.

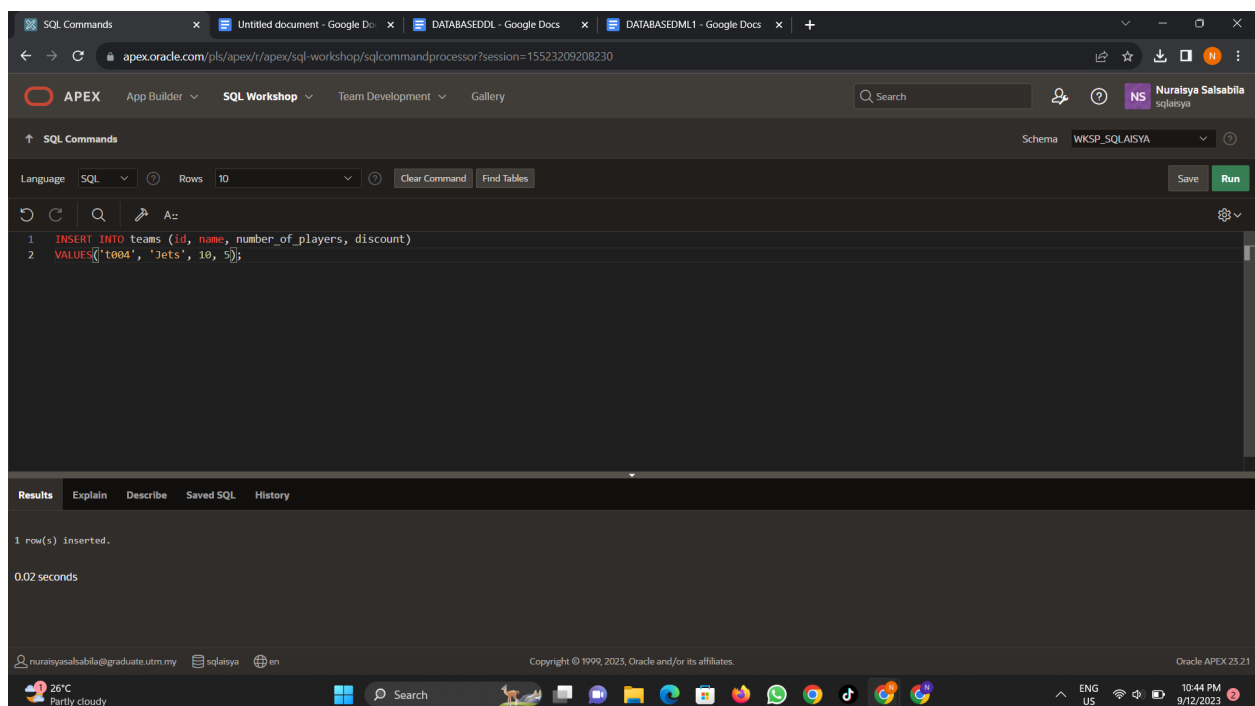
Number	Elapsed	Statement	Feedback	Rows
1	0.02	INSERT INTO inventory_list (id, cost, units) VALUES('I01023	1 row(s) inserted.	1
2	0.00	INSERT INTO inventory_list (id, cost, units) VALUES('I01023	1 row(s) inserted.	1
3	0.01	INSERT INTO inventory_list (id, cost, units) VALUES('I01023	1 row(s) inserted.	1
4	0.00	INSERT INTO inventory_list (id, cost, units) VALUES('I01023	1 row(s) inserted.	1
5	0.00	INSERT INTO inventory_list (id, cost, units) VALUES('I01023	1 row(s) inserted.	1
6	0.04	INSERT INTO items (itm_number, name, description, category,	1 row(s) inserted.	1
7	0.01	INSERT INTO items (itm_number, name, description, category,	1 row(s) inserted.	1
8	0.00	INSERT INTO items (itm_number, name, description, category,	1 row(s) inserted.	1
9	0.00	INSERT INTO items (itm_number, name, description, category,	1 row(s) inserted.	1
10	0.01	INSERT INTO items (itm_number, name, description, category,	1 row(s) inserted.	1
11	0.01	INSERT INTO price_history (start_date, start_time, price, it	1 row(s) inserted.	1
12	0.00	INSERT INTO price_history (start_date, start_time, price, en	1 row(s) inserted.	1
13	0.00	INSERT INTO price_history (start_date, start_time, price, en	1 row(s) inserted.	1
14	0.00	INSERT INTO price_history (start_date, start_time, price, it	1 row(s) inserted.	1
15	0.01	INSERT INTO price_history (start_date, start_time, price, it	1 row(s) inserted.	1

Summary: 47 Statements Processed, 47 Successful, 0 With Errors.

There is no error.

Part 2 : Inserting rows to the system

1. Add a new team to the system



The screenshot shows the Oracle APEX SQL Workshop SQL Commands page. The SQL command is: `INSERT INTO teams (id, name, number_of_players, discount) VALUES('t004', 'Jets', 10, 5);`. The Results tab shows 1 row(s) inserted in 0.02 seconds.

Results	Explain	Describe	Saved SQL	History
1 row(s) inserted.				
0.02 seconds				

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

The screenshot shows the Oracle APEX SQL Workshop interface. The SQL command entered is:

```
1 INSERT INTO customers (ctr_number, email, first_name, last_name, phone_number, current_balance, loyalty_card_number, tem_id, sre_id)
2 VALUES('c02001', 'brianrog@hoootech.com', 'Brian', 'Rogers', '01654564898', -5, '1c4587', null, null);
```

The results pane shows an error message: **ORA-02290: check constraint (WKSP_SQLAISYA.CURRENT_BALANCE) violated**. The execution time is 0.03 seconds.

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.

The screenshot shows the Oracle APEX SQL Workshop interface with the same SQL command, but the current balance is now 50:

```
1 INSERT INTO customers (ctr_number, email, first_name, last_name, phone_number, current_balance, loyalty_card_number, tem_id, sre_id)
2 VALUES('c02001', 'brianrog@hoootech.com', 'Brian', 'Rogers', '01654564898', 50, '1c4587', null, null);
```

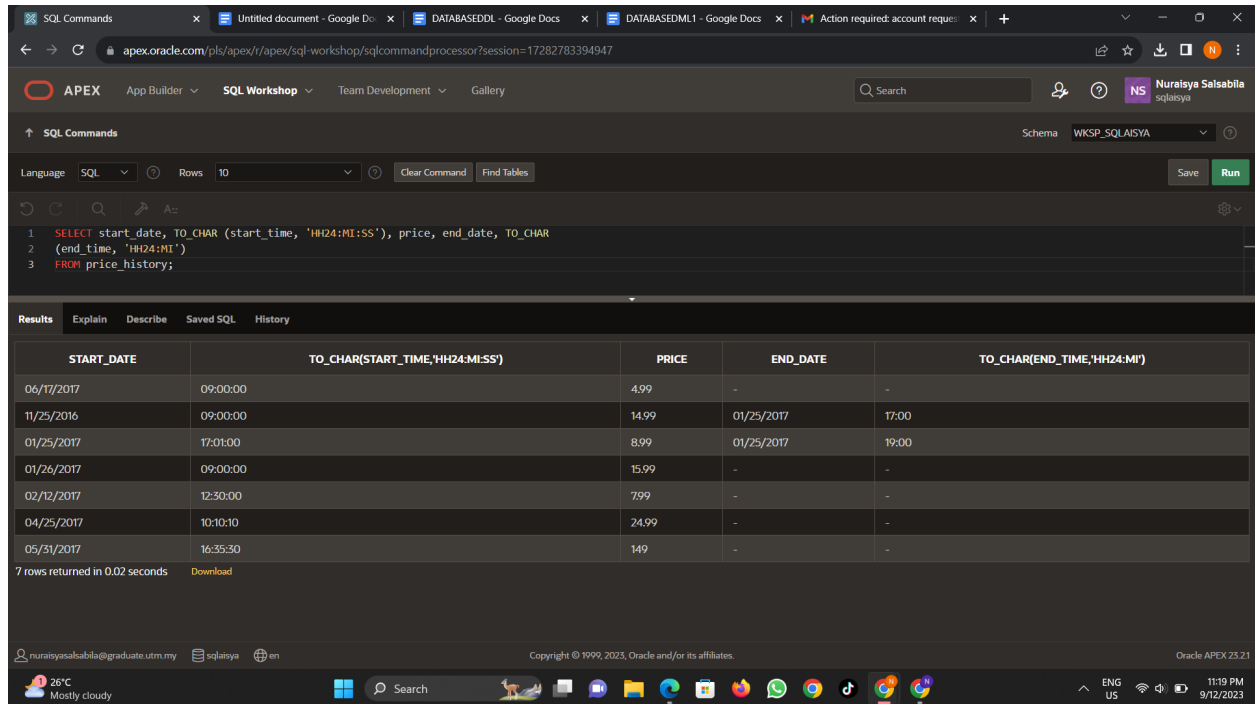
The results pane shows the message: **1 row(s) inserted.** The execution time is 0.00 seconds.

Section 6 Lesson 4 Exercise 2: Data Manipulation Language

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;
```



The screenshot shows the APEX SQL Workshop interface. The SQL Commands tab is active, displaying the following query:

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

The Results tab shows the execution output with 7 rows returned in 0.02 seconds. The data is as follows:

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.

The screenshot shows the Oracle APEX SQL Workshop interface. The top navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. The user is logged in as 'Nuraisyya Salsabila'. The 'SQL Commands' tab is active, displaying a list of commands:
1. UPDATE price_history
2. SET end_date = CURRENT_DATE, end_time = CURRENT_TIMESTAMP
3. WHERE itm_number = 'im01101044' AND end_date IS NULL;
The 'Results' tab shows '1 row(s) updated.' and '0.02 seconds'. The bottom status bar indicates 'Copyright © 1999, 2023, Oracle and/or its affiliates.' and 'Oracle APEX 23.2.1'.

The screenshot shows the Oracle APEX Object Browser interface. The 'Object Browser' tab is active, displaying a tree view of database objects. The 'PRICE_HISTORY' table is selected, and its data is displayed in a table view. The table has columns: START_DATE, START_TIME, PRICE, END_DATE, END_TIME, and ITM_NUMBER. The data is as follows:

START_DATE	START_TIME	PRICE	END_DATE	END_TIME	ITM_NUMBER
06/17/2017	06/17/2016	4.99	12/09/2023	12/09/2023	im01101044
11/25/2016	11/25/2016	14.99	01/25/2017	01/25/2017	im01101045
01/25/2017	01/25/2017	8.99	01/25/2017	01/25/2017	im01101045
01/26/2017	01/26/2017	15.99			im01101045
02/12/2017	02/12/2017	7.99			im01101046
04/25/2017	04/25/2017	24.99			im01101047
05/31/2017	05/31/2017	149			im01101048

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3. Rerun the select statement on the price_history table to ensure that the statement has been executed.

SQL Commands

apex.oracle.com/pls/apex/f?p=4500:2000:17282783394947

APEX SQL Workshop Team Development Gallery

Schema WKSP_SQLAISYA

Language SQL Rows 10 Clear Command Find Tables Save Run

```
1 SELECT *
2 FROM price_history;
```

Results Explain Describe Saved SQL History

START_DATE	START_TIME	PRICE	END_DATE	END_TIME	ITM_NUMBER
06/17/2017	06/17/2016	4.99	12/09/2023	12/09/2023	im01101044
11/25/2016	11/25/2016	14.99	01/25/2017	01/25/2017	im01101045
01/25/2017	01/25/2017	8.99	01/25/2017	01/25/2017	im01101045
01/26/2017	01/26/2017	15.99	-	-	im01101045
02/12/2017	02/12/2017	7.99	-	-	im01101046
04/25/2017	04/25/2017	24.99	-	-	im01101047
05/31/2017	05/31/2017	149	-	-	im01101048

7 rows returned in 0.01 seconds Download

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4. 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.

Object Browser

apex.oracle.com/pls/apex/f?p=4500:2000:17282783394947

APEX SQL Workshop Team Development Gallery

Schema WKSP_SQLAISYA

Object Browser

PRICE_HISTORY

Columns Data Indexes Constraints Grants Statistics Triggers Dependencies DDL Sample Queries

+ Insert Row Columns... Filter... Count Rows Load Data Download Refresh

START_DATE	START_TIME	PRICE	END_DATE	END_TIME	ITM_NUMBER
12/09/2023	12/09/2023	99.99			im01101044
06/17/2017	06/17/2016	4.99	12/09/2023	12/09/2023	im01101044
11/25/2016	11/25/2016	14.99	01/25/2017	01/25/2017	im01101045
01/25/2017	01/25/2017	8.99	01/25/2017	01/25/2017	im01101045
01/26/2017	01/26/2017	15.99			im01101045
02/12/2017	02/12/2017	7.99			im01101046
04/25/2017	04/25/2017	24.99			im01101047
05/31/2017	05/31/2017	149			im01101048

1 cells selected 1 - 8

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5. Rerun the select statement on the price_history table to ensure that the statement has been executed.

The screenshot displays the Oracle APEX SQL Workshop interface. The top navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. The user is logged in as 'Nuraisy Salsabila' with the email 'sqlaiya'. The 'SQL Commands' tab is active, showing a query: `SELECT * FROM price_history;`. The 'Results' tab is selected, displaying a table with 8 rows. The table columns are START_DATE, START_TIME, PRICE, END_DATE, END_TIME, and ITM_NUMBER. The data shows a price history for item 'im01101044' from 06/17/2017 to 12/09/2023, and for item 'im01101045' from 11/25/2016 to 01/25/2017. The bottom status bar indicates '8 rows returned in 0.00 seconds' and 'Download' button.

START_DATE	START_TIME	PRICE	END_DATE	END_TIME	ITM_NUMBER
12/09/2023	12/09/2023	99.99	-	-	im01101044
06/17/2017	06/17/2016	4.99	12/09/2023	12/09/2023	im01101044
11/25/2016	11/25/2016	14.99	01/25/2017	01/25/2017	im01101045
01/25/2017	01/25/2017	8.99	01/25/2017	01/25/2017	im01101045
01/26/2017	01/26/2017	15.99	-	-	im01101045
02/12/2017	02/12/2017	7.99	-	-	im01101046
04/25/2017	04/25/2017	24.99	-	-	im01101047
05/31/2017	05/31/2017	14.99	-	-	im01101048

Part 2: Deleting rows from the system

1. Bob Thornberry has contacted Obl to ask that the 83 Barrhill Drive address be removed from the system as he can no longer receive parcels at this address. Write a SQL statement that will remove this address from the system.

Object Browser

apex.oracle.com/pls/apex/f?p=4500:2000:17282783394947

APEX App Builder SQL Workshop Team Development Gallery

Schema WKSP_SQLAISA

Object Browser

Tables

- CUSTOMERS
- CUSTOMERS_ADDRESSES
- HTMLDB_PLAN_TABLE
- INVENTORY_LIST
- ITEMS
- ORDERED_ITEMS
- ORDERS
- PRICE_HISTORY
- SALES_REPRESENTATIVES
- SALES_REP_ADDRESSES
- TEAMS

Views

Indexes

Sequences

Types

Packages

Procedures

Functions

CUSTOMERS_ADDRESSES

Columns Data Indexes Constraints Grants Statistics Triggers Dependencies DDL Sample Queries

+ Insert Row Columns... Filter... Count Rows Load Data Download Refresh

ID	ADDRESS_LINE_1	ADDRESS_LINE_2	CITY	ZIP_CODE	CTR_NUMBER
ca0105	65 Acacia Drive	Skins	Liverpool	LP83JHR	c00001
ca0103	54 Ropehill Crescent	Georgetown	Star	ST45AGV	c00101
ca0104	36 Watercress Lane		Jump	JP23YTH	c01986
ca0102	17 Gartsquare Road	Starford	Liverpool	LP89JHK	c00001

1 cells selected

1 - 4

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2. Run a select statement on the customers_addresses table to ensure that the statement has been executed.

SQL Commands

apex.oracle.com/pls/apex/f?p=apex/sql-workshop/sqlcommandprocessor?session=17282783394947

APEX App Builder SQL Workshop Team Development Gallery

Schema WKSP_SQLAISA

SQL Commands

Language SQL Rows 10 Clear Command Find Tables Save Run

```
1 SELECT *
2 FROM customers_addresses;
```

Results Explain Describe Saved SQL History

ID	ADDRESS_LINE_1	ADDRESS_LINE_2	CITY	ZIP_CODE	CTR_NUMBER
ca0105	65 Acacia Drive	Skins	Liverpool	LP83JHR	c00001
ca0103	54 Ropehill Crescent	Georgetown	Star	ST45AGV	c00101
ca0104	36 Watercress Lane	-	Jump	JP23YTH	c01986
ca0102	17 Gartsquare Road	Starford	Liverpool	LP89JHK	c00001

4 rows returned in 0.01 seconds Download

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