



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

FACULTY OF COMPUTING
UTM Johor Bahru

SECD 2523 –DATABASE

Lab 2: Data Manipulation Language (DML) 2

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DML 2 Part 1

Section 6 Lesson 6 Exercise 1: Retrieving Data Using SELECT

Write and Execute SELECT statements (S6L6 Objective 2)

In this exercise you will retrieve data that is stored in the database system by using a SELECT statement.

Part 1: Retrieving all columns from a table.

Using the SELECT * statement show all data stored in the following tables:

- 1. customers.

APEX

App Builder

SQL Workshop

Team Development

Gallery

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TH

TAN HUI QUN

huiqun1027

SQL Commands

Schema

WKSP_HUIQUN1027

Language

SQL

Rows

10

Clear Command

Find Tables

Save

Run

A:

1 SELECT *FROM customers

Results

Explain

Describe

Saved SQL

History

CTR_NUMBER	EMAIL	FIRST_NAME	LAST_NAME	PHONE_NUMBER	CURRENT_BALANCE	SRE_ID	TEM_ID	LOYALTY_CARD_NUMBER
c00103	MurciaA@globaltech.com	Andrew	Murcia	07715246890	85	-	-	lc2341
c00012	Jjones@freemail.com	Jennifer	Jones	01505214598	0	-	-	lc1015
c02001	brianrog@hootech.com	Brian	Rogers	01654564898	50	-	-	lc4587
c00101	unknown@here.com	John	Doe	03216547808	987.5	sr01	t002	-
c01986	margal87@delphiview.com	Maria	Galant	01442736589	125.65	sr03	t003	-
c00001	bob.thornberry@heatmail.com	Robert	Thornberry	01234567898	150	sr01	t001	-

6 rows returned in 0.04 secondsDownload

- 2. teams.

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SQL Commands

Schema

WKSP_HUIQUN1027

Language

SQL

Rows

10

Clear Command

Find Tables

Save

Run

A:

1 SELECT *FROM teams

Results

Explain

Describe

Saved SQL

History

ID	NAME	NUMBER_OF_PLAYERS	DISCOUNT
t001	Rockets	25	10
t002	Celtics	42	20
t003	Rovers	8	-
t004	Jets	10	5

4 rows returned in 0.03 secondsDownload

3. items

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SQL Commands

SchemaWKSP_HUIQUN1027

LanguageSQL

Rows10

Clear Command

Find Tables

Save

Run

A::

1SELECT *FROM items

Results

Explain

Describe

Saved SQL

History

ITM_NUMBER	NAME	DESCRIPTION	CATEGORY	COLOR	Size	ILT_ID
im01101044	gloves	catcher mitt	clothing	brown	m	il010230124
im01101045	under shirt	top worn under the game top	clothing	white	s	il010230125
im01101046	socks	team socks with emblem	clothing	range	l	il010230126
im01101047	game top	team shirt with emblem	clothing	range	m	il010230127
im01101048	premium bat	high quaity basball bat	equipment	-	-	il010230128

5 rows returned in 0.03 secondsDownload

Part 2: Selecting Specific Columns

1. Display the customer number, first name, last name, email and phone number of the customers.

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SQL Commands

SchemaWKSP_HUIQUN1027

LanguageSQL

Rows10

Clear Command

Find Tables

Save

Run

A::

1SELECT ctr_number, first_name, last_name, email, phone_number

2FROM customers

Results

Explain

Describe

Saved SQL

History

CTR_NUMBER	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER
c00103	Andrew	Murcia	MurciaA@globaltech.com	07715246890
c00012	Jennifer	Jones	Jjones@freemail.com	01505214598
c02001	Brian	Rogers	brianrog@hootech.com	01654564898
c00101	John	Doe	unknown@here.com	03216547808
c01986	Maria	Galant	margal87@delphiview.com	01442736589
c00001	Robert	Thornberry	bob.thornberry@heatmail.com	01234567898

6 rows returned in 0.00 secondsDownload

2. Display the name and number of players for each team.

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SQL Commands

SchemaWKSP_HUIQUN1027

LanguageSQL

Rows10

Clear Command

Find Tables

Save

Run

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1SELECT name, number_of_players

2FROM teams

Results

Explain

Describe

Saved SQL

History

NAME	NUMBER_OF_PLAYERS
Rockets	25
Celtics	42
Rovers	8
Jets	10

4 rows returned in 0.01 secondsDownload

3. Display the name, description and category for every item in the table.

APEX

App Builder

SQL Workshop

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Gallery

Search

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SQL Commands

SchemaWKSP_HUIQUN1027

LanguageSQL

Rows10

Clear Command

Find Tables

Save

Run

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1SELECT name, description, category

2FROM items

Results

Explain

Describe

Saved SQL

History

NAME	DESCRIPTION	CATEGORY
gloves	catcher mitt	clothing
under shirt	top worn under the game top	clothing
socks	team socks with emblem	clothing
game top	team shirt with emblem	clothing
premium bat	high quaiity baseball bat	equipment

5 rows returned in 0.02 secondsDownload

DML 2 Part 2

Section 6 Lesson 6 Exercise 2: Retrieving Data Using SELECT

Write and Execute SELECT statements (S6L6 Objective 2)

In this exercise you will retrieve data that is stored in the database system by using a SELECT statement.

Part 1: Using Arithmetic Operators

1. Every customer has been told they can pay off their current balance over a 12 month period. Display the customer's first name, last name, current balance and monthly payment.

App Builder
SQL Workshop
Team Development
Gallery

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↑
SQL Commands

Schema
WKSP_HUIQUN1027

Language
SQL
Rows
10
Clear Command
Find Tables
Save
Run

A::

```

1 SELECT first_name, last_name, current_balance, current_balance/12
2 FROM customers

```

Results
Explain
Describe
Saved SQL
History

FIRST_NAME	LAST_NAME	CURRENT_BALANCE	CURRENT_BALANCE/12
Andrew	Murcia	85	7.08333333333333333333333333333333
Jennifer	Jones	0	0
Brian	Rogers	50	4.16666666666666666666666666666667
John	Doe	987.5	82.291666666666666666666666666667
Maria	Galant	125.65	10.47083333333333333333333333333333
Robert	Thornberry	150	12.5

6 rows returned in 0.03 seconds
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SQL Commands

SchemaWKSP_HUIQUN1027

LanguageSQL

Rows10

Clear Command

Find Tables

Save

Run

Aa

1SELECT first_name, last_name, current_balance, ROUND(current_balance/12, 2)

2FROM customers

Results

Explain

Describe

Saved SQL

History

FIRST_NAME	LAST_NAME	CURRENT_BALANCE	ROUND(CURRENT_BALANCE/12,2)
Andrew	Murcia	85	7.08
Jennifer	Jones	0	0
Brian	Rogers	50	4.17
John	Doe	9875	82.29
Maria	Galant	125.65	10.47
Robert	Thornberry	150	12.5

6 rows returned in 0.01 seconds

Download

2. Obl is considering giving a gift card to all its customers of 5.00 that can be used to reduce their current balance.
- Write a query that will show the customers first name, last name, customer number, current balance and the value of their balance minus the gift value.

The screenshot shows the APEX SQL Workshop interface. The top navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. A search bar and user profile 'TAN HUI QUN' are on the right. The 'SQL Commands' tab is active, showing a query with two lines: 'SELECT first_name, last_name, ctr_number, current_balance, current_balance-5' and 'FROM customers'. The 'Results' tab is selected, displaying a table with 6 rows. The table has columns: FIRST_NAME, LAST_NAME, CTR_NUMBER, CURRENT_BALANCE, and CURRENT_BALANCE-5. The data rows are: Andrew Murcia (85), Jennifer Jones (0), Brian Rogers (50), John Doe (987.5), Maria Galant (125.65), and Robert Thornberry (145). A status bar at the bottom indicates '6 rows returned in 0.01 seconds'.

FIRST_NAME	LAST_NAME	CTR_NUMBER	CURRENT_BALANCE	CURRENT_BALANCE-5
Andrew	Murcia	c00103	85	80
Jennifer	Jones	c00012	0	-5
Brian	Rogers	c02001	50	45
John	Doe	c00101	987.5	982.5
Maria	Galant	c01986	125.65	120.65
Robert	Thornberry	c00001	150	145

3. What would be the problem with implementing this scheme?
- The current balance cannot be below zero.

Part 2 : Using Column Aliases

1. You previously wrote a query that display the customer’s first name, last name, current balance and monthly payment. Rewrite the query to use First Name, Last Name, Balance and Monthly Repayments as the column aliases. The aliases are to be shown exactly as described (case sensitive).

The screenshot shows the APEX SQL Workshop interface with a query using column aliases. The query is: 'SELECT first_name AS "First Name", last_name AS "Last Name", current_balance AS "Balance", current_balance/12 AS "Monthly Repayments" FROM customers'. The 'Results' tab shows a table with 6 rows. The columns are: First Name, Last Name, Balance, and Monthly Repayments. The data rows are: Andrew Murcia (85), Jennifer Jones (0), Brian Rogers (50), John Doe (987.5), Maria Galant (125.65), and Robert Thornberry (150). The 'Monthly Repayments' column shows values like 7.083333333333333, 0, 4.166666666666667, 82.29166666666667, 10.470833333333333, and 12.5. A status bar at the bottom indicates '6 rows returned in 0.00 seconds'.

First Name	Last Name	Balance	Monthly Repayments
Andrew	Murcia	85	7.083333333333333
Jennifer	Jones	0	0
Brian	Rogers	50	4.166666666666667
John	Doe	987.5	82.29166666666667
Maria	Galant	125.65	10.470833333333333
Robert	Thornberry	150	12.5

APEX

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SQL Commands

SchemaWKSP_HUIQUN1027

LanguageSQLRows10Clear CommandFind TablesSaveRun

SELECT first_name AS "First Name", last_name AS "Last Name", current_balance AS "Balance", ROUND (current_balance/12,2) AS "Monthly Repayments"

FROM customers

Results

ExplainDescribeSaved SQLHistory

First Name	Last Name	Balance	Monthly Repayments
Andrew	Murcia	85	7.08
Jennifer	Jones	0	0
Brian	Rogers	50	4.17
John	Doe	9875	82.29
Maria	Galant	125.65	10.47
Robert	Thornberry	150	12.5

6 rows returned in 0.01 secondsDownload

Part 3: Using Literal Character Strings

1. Write a query that will display the team information in the following format:

The Rockets team has 25 players and receives a discount of 10 percent.

Use **Team Information** as the column alias.

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SQL Commands

SchemaWKSP_HUIQUN1027

LanguageSQLRows10Clear CommandFind TablesSaveRun

SELECT 'The ' || name || ' team has ' || number_of_players || ' players and receives a discount of ' || discount || ' percent.' AS "Team Information"

FROM teams

Results

ExplainDescribeSaved SQLHistory

Team Information
The Rockets team has 25 players and receives a discount of 10 percent.
The Celtics team has 42 players and receives a discount of 20 percent.
The Rovers team has 8 players and receives a discount of percent.
The Jets team has 10 players and receives a discount of 5 percent.

4 rows returned in 0.03 secondsDownload

2. Why does the last team not show a discount?

It contains a null value that is not the same as zero.

DML 2 Part 3

Section 6 Lesson 7 Exercise 1: Restricting Data Using WHERE

Limit rows using WHERE (S6L7 Objective 1)

In this exercise you will refine the data that is returned in your query by adding a WHERE clause to your SELECT statement.

Part 1: Using the WHERE Clause.

- Using the unique customer number in the where clause display all columns for Maria Galant.

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SQL Commands

SchemaWKSP_HUIQUN1027

LanguageSQL

Rows10

Clear Command

Find Tables

Save

Run

SQL

1SELECT *FROM customers

2WHERE ctr_number = 'c01986'

Results

Explain

Describe

Saved SQL

History

CTR_NUMBER	EMAIL	FIRST_NAME	LAST_NAME	PHONE_NUMBER	CURRENT_BALANCE	SRE_ID	TEM_ID	LOYALTY_CARD_NUMBER
c01986	margal87@delphiview.com	Maria	Galant	01442736589	125.65	sr03	t003	-

1 rows returned in 0.01 secondsDownload

- Display the first name, last name and customer number for all customers who have a current balance of greater than 100. Use an appropriate alias for your column headings.

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Search

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SQL Commands

SchemaWKSP_HUIQUN1027

LanguageSQL

Rows10

Clear Command

Find Tables

Save

Run

SQL

1SELECT first_name AS "First Name", last_name AS "Last Name", current_balance AS "Balance"

2FROM customers

3WHERE current_balance >100

Results

Explain

Describe

Saved SQL

History

First Name	Last Name	Balance
John	Doe	987.5
Maria	Galant	125.65
Robert	Thornberry	150

3 rows returned in 0.01 secondsDownload

- Display the order id, date and time of all orders that were placed before the 28th of May 2019. Use an appropriate alias for your column headings.

The screenshot shows the APEX SQL Workshop interface. The top navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. A search bar and user profile 'TAN HUI QUN' are on the right. The 'SQL Commands' tab is active, showing a query with 10 rows. The query is:

```
1 SELECT id AS "Order ID", odr_date AS "Order Date", odr_time AS "Order Time"
2
3 FROM orders
4 WHERE odr_date < TO_DATE('05/28/2019', 'MM/DD/YYYY')
5
```

The 'Results' tab shows the output of the query:

Order ID	Order Date	Order Time
or0101425	05/28/2017	05/28/2017
or0101750	06/18/2017	06/18/2017
or0101350	05/24/2017	05/24/2017
or0101250	04/17/2017	04/17/2017
or0101681	06/02/2017	06/02/2017

5 rows returned in 0.01 seconds. Download

Part 2: Range Conditions: BETWEEN Operator

- Display the inventory id, cost and number of units using appropriate aliases for all items that have a trade cost of between 3.00 and 15.00.

The screenshot shows the APEX SQL Workshop interface. The top navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. A search bar and user profile 'TAN HUI QUN' are on the right. The 'SQL Commands' tab is active, showing a query with 10 rows. The query is:

```
1 SELECT id AS "Inventory ID", cost AS "Cost", units AS "Number of Units in Stock"
2 FROM inventory_list
3 WHERE cost BETWEEN 3 AND 15
4
```

The 'Results' tab shows the output of the query:

Inventory ID	Cost	Number of Units in Stock
il010230125	7.99	250
il010230126	5.24	87

2 rows returned in 0.03 seconds. Download

Part 3: Membership Conditions: IN Operator

1. Display the inventory id, cost and number of units using appropriate aliases for all items that have 50, 100, 150 or 200 units in stock.

The screenshot shows the APEX SQL Workshop interface. The top navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. A search bar is on the right. Below the navigation bar, the 'SQL Commands' tab is active, showing a query in the editor. The query is:

```
1 SELECT id AS "Inventory ID", cost AS "Cost", units AS "Number of Units in Stock"
2 FROM inventory_list
3 WHERE units IN (50, 100, 150, 200, 250);
```

The 'Results' tab is selected, displaying a table with 2 rows. The table has three columns: 'Inventory ID', 'Cost', and 'Number of Units in Stock'.

Inventory ID	Cost	Number of Units in Stock
il010230124	2.5	100
il010230125	7.99	250

At the bottom of the results, it says '2 rows returned in 0.01 seconds' and there is a 'Download' link.

Part 4: Membership Conditions: NOT IN Operator

1. Display the inventory id, cost and number of units using appropriate aliases for all items that do not have 50, 100, 150 or 200 units in stock.

The screenshot shows the APEX SQL Workshop interface. The top navigation bar is the same as in Part 3. The 'SQL Commands' tab is active, showing a query in the editor. The query is:

```
1 SELECT id AS "Inventory ID", cost AS "Cost", units AS "Number of Units in Stock"
2 FROM inventory_list
3 WHERE units NOT IN (50, 100, 150, 200, 250);
```

The 'Results' tab is selected, displaying a table with 3 rows. The table has three columns: 'Inventory ID', 'Cost', and 'Number of Units in Stock'.

Inventory ID	Cost	Number of Units in Stock
il010230127	18.95	65
il010230126	5.24	87
il010230128	97.46	8

At the bottom of the results, it says '3 rows returned in 0.01 seconds' and there is a 'Download' link.

Part 5: Pattern Matching: LIKE Operator

- 1. Display item number and name of all items that have a name that begins with g. Use an appropriate alias for your column headings.

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SQL Commands

Schema

WKSP_HUIQUN1027

Language

SQL

Rows

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Clear Command

Find Tables

Save

Run

A::

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SELECT itm_number AS "Item ID", name AS "Item Name"

FROM items

WHERE name LIKE 'g%'

Results

Explain

Describe

Saved SQL

History

Item ID	Item Name
im01101044	gloves
im01101047	game top

2 rows returned in 0.01 seconds

Download

Part 6 : Pattern Matching: Combining Wildcard Characters with the LIKE Operator

- 1. Display item number and name of all items that have a name that contain a lowercase o. Use an appropriate alias for your column headings.

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SQL Commands

Schema

WKSP_HUIQUN1027

Language

SQL

Rows

10

Clear Command

Find Tables

Save

Run

A::

1

2

3

4

SELECT itm_number AS "Item ID", name AS "Item Name"

FROM items

WHERE name LIKE '%o%'

Results

Explain

Describe

Saved SQL

History

Item ID	Item Name
im01101044	gloves
im01101046	socks
im01101047	game top

3 rows returned in 0.01 seconds

Download

DML 2 Part 4

Section 6 Lesson 7 Exercise 2: Restricting Data Using WHERE

Limit rows using WHERE (S6L7 Objective 1)

In this exercise you will refine the data that is returned in your query by adding a WHERE clause to your SELECT statement.

Part 1: Using the NULL Conditions

1. Write a query that will display information for teams that don't receive a discount in the following format:

The Rovers team has 25 players and does not receive a discount.

Use **Team Information** as the column alias.

The screenshot shows the APEX SQL Workshop interface. The top navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. A search bar and user profile 'TAN HUI QUN' are on the right. The 'SQL Commands' panel shows a query: `SELECT 'The ' || name || ' team has ' || number_of_players || ' players and does not receive a discount ' AS "Team Information" FROM teams WHERE discount IS NULL`. The 'Results' panel shows one row: 'The Rovers team has 8 players and does not receive a discount'. The status bar indicates '1 rows returned in 0.01 seconds'.

Team Information
The Rovers team has 8 players and does not receive a discount

2. Write a query that will display information for only teams that receive a discount in the following format:

The Rockets team has 25 players and receives a discount of 10 percent.

Use **Team Information** as the column alias.

The screenshot shows the APEX SQL Workshop interface. The top navigation bar is the same as the previous screenshot. The 'SQL Commands' panel shows a query: `SELECT 'The ' || name || ' team has ' || number_of_players || ' players and receives a discount of ' || discount || ' percent.' AS "Team Information" FROM teams WHERE discount IS NOT NULL`. The 'Results' panel shows three rows: 'The Rockets team has 25 players and receives a discount of 10 percent.', 'The Celtics team has 42 players and receives a discount of 20 percent.', and 'The Jets team has 10 players and receives a discount of 5 percent.'. The status bar indicates '3 rows returned in 0.01 seconds'.

Team Information
The Rockets team has 25 players and receives a discount of 10 percent.
The Celtics team has 42 players and receives a discount of 20 percent.
The Jets team has 10 players and receives a discount of 5 percent.

Part 2: Logical Operators: AND

1. Write a query that will display the customer number, address line 1 and postal code for customers that live in the starford area of Liverpool. Use Customer Number, Street Address and Postal Code as the column aliases.

The screenshot shows the APEX SQL Workshop interface. The top navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. A search bar is on the right. Below the navigation bar, the 'SQL Commands' tab is active. The 'Language' is set to 'SQL', and 'Rows' are set to 10. The 'Schema' is 'WKSP_HUIQUN1027'. The query editor contains the following SQL code:

```
1 SELECT ctr_number AS "Customer Number", Address_line_1 AS "Street Address", zip_code AS "Postal Code"
2 FROM customers_addresses
3 WHERE city = 'Liverpool' AND address_line_2 = 'Starford'
4
```

The 'Results' tab is active, showing a table with 3 columns: 'Customer Number', 'Street Address', and 'Postal Code'. The table contains one row of data:

Customer Number	Street Address	Postal Code
c00001	17 Gartsquare Road	LP89JHK

Below the table, it says '1 rows returned in 0.02 seconds' and there is a 'Download' link.

Part 3: Logical Operators: OR

1. Write a query that will display the customer number, address line 1 and postal code for customers that live in either starford or Liverpool in general. Use Customer Number, Street Address and Postal Code as the column aliases.

The screenshot shows the APEX SQL Workshop interface. The top navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. A search bar is on the right. Below the navigation bar, the 'SQL Commands' tab is active. The 'Language' is set to 'SQL', and 'Rows' are set to 10. The 'Schema' is 'WKSP_HUIQUN1027'. The query editor contains the following SQL code:

```
1 SELECT ctr_number AS "Customer Number", Address_line_1 AS "Street Address", zip_code AS "Postal Code"
2 FROM customers_addresses
3 WHERE city = 'Liverpool' OR address_line_2 = 'Starford'
4
```

The 'Results' tab is active, showing a table with 3 columns: 'Customer Number', 'Street Address', and 'Postal Code'. The table contains two rows of data:

Customer Number	Street Address	Postal Code
c00001	17 Gartsquare Road	LP89JHK
c00001	63 Acacia Drive	LP83JHR

Below the table, it says '2 rows returned in 0.03 seconds' and there is a 'Download' link.

Part 4: Logical Operators: NOT Equal To

1. Write a query that will display the customer number, address line 1 and postal code for customers that do not live in Liverpool. Use Customer Number, Street Address and Postal Code as the column aliases.

The screenshot shows the APEX SQL Workshop interface. The top navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. A search bar and user profile 'TAN HUI QUN huiqun1027' are on the right. The 'SQL Commands' panel shows a query: `SELECT ctr_number AS "Customer Number", Address_line_1 AS "Street Address", zip_code AS "Postal Code" FROM customers_addresses WHERE city NOT IN ('Liverpool')`. The 'Results' panel shows a table with 2 rows: (c00101, 54 Ropehill Crescent, ST45AGV) and (c01986, 36 Watercress Lane, JP23YTH). The status bar indicates '2 rows returned in 0.01 seconds'.

Customer Number	Street Address	Postal Code
c00101	54 Ropehill Crescent	ST45AGV
c01986	36 Watercress Lane	JP23YTH

DML 2 Part 5

Section 6 Lesson 8 Exercise 1: Sorting Data Using ORDER BY

Use the ORDER BY Clause to Sort SQL Results (S6L8 Objective 1)

In this exercise you will sort the order of the data that is returned in your query by adding an ORDER BY clause to the end of your SELECT statement.

1. Display the team name and number of players alphabetically in order of team name. Use an appropriate alias for your column headings.

The screenshot shows the APEX SQL Workshop interface. The top navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. A search bar and user profile 'TAN HUI QUN huiqun1027' are on the right. The 'SQL Commands' panel shows a query: `SELECT name AS "Team Name", number_of_players AS "Number of Players" FROM teams ORDER BY name`. The 'Results' panel shows a table with 4 rows: (Celtics, 42), (Jets, 10), (Rockets, 25), and (Rovers, 8). The status bar indicates '4 rows returned in 0.00 seconds'.

Team Name	Number of Players
Celtics	42
Jets	10
Rockets	25
Rovers	8

2. Display the team name and number of players in descending order of number of players. Use an appropriate

alias for your column headings.

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

```
1 SELECT name AS "Team Name", number_of_players AS "Number of Players"
2 FROM teams
3 ORDER BY number_of_players DESC
```

The results are displayed in a table with the following data:

Team Name	Number of Players
Celtics	42
Rockets	25
Jets	10
Rovers	8

4 rows returned in 0.01 seconds

3. Display the team name and number of players alphabetically in order of team name. Use Team Name for the name alias and Players for the number of players. Sort the output in descending order of name using the alias in the ORDER BY clause.

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

```
1 SELECT name AS "Team Name", number_of_players AS "Number of Players"
2 FROM teams
3 ORDER BY "Team Name" DESC
```

The results are displayed in a table with the following data:

Team Name	Number of Players
Rovers	8
Rockets	25
Jets	10
Celtics	42

4 rows returned in 0.00 seconds

DML 2 Part 6

Section 6 Lesson 8 Exercise 2: Sorting Data Using ORDER BY

Part 1 : TOP-N-ANALYSIS (S6L8 Objective 3)

1. The customers are numbered sequentially with each new customer being assigned a higher customer number. Use TOP-N-ANALYSIS to only show the First and last name of the first three customers. Show the customers first and last name in the same column using Customer Name as the column alias.

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SQL Commands

SchemaWKSP_HUIQUN1027

LanguageSQLRows10Clear CommandFind TablesSaveRun

1SELECT ROWNUM As "Order of Membership", first_name || ' ' ||last_name AS "Customer Name"

2FROM customers

3WHERE ROWNUM <=3

4ORDER BY ctr_number

Results

Explain

Describe

Saved SQL

History

Order of Membership	Customer Name
2	Jennifer Jones
1	Andrew Murcia
3	Brian Rogers

3 rows returned in 0.01 secondsDownload

Part 2 : Using a Substitution Variable (S6L8 Objective 4)

1. Use a substitution variable that will allow you to enter the commission rate for the sales representatives. The first and last names should be displayed to screen for any sales representatives that earn that commission rate and the output should be ordered by their last name. Use an appropriate alias for your column headings.

Enter Bind Variables - Work - Microsoft Edge

https://apex.oracle.com/pls/apex/f?p=4500:138:7230437578359:::

Submit

Bind Variable	Value
:COMMISSION_RATE	10

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SQL Commands

SchemaWKSP_HUIQUN1027

LanguageSQLRows10Clear CommandFind TablesSave

1SELECT first_name AS "First Name" , last_name AS "Last Name", commission_rate AS "Commission Rate"

2FROM sales_representatives

3WHERE commission_rate = :commission_rate

4ORDER BY last_name

Results

Explain

Describe

Saved SQL

History

First Name	Last Name	Commission Rate
Charles	Raymond	10

1 rows returned in 0.00 secondsDownload