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FACULTY OF COMPUTING
UTM Johor Bahru

OA Lab Exercise

<DFo 6.6.1 Project>

SECD2523 - Database

SEMESTER I, SESSION 2023/2024

Lecturer: Dr. Noor Hidayah Zakaria

Name	CHUA ERN QI
Matric Number	A22EC0044
Section	08

Section 6 Lesson 6 Exercise 1: Retrieving Data Using SELECT

Write and Execute SELECT statements (S6L6 Objective 2)

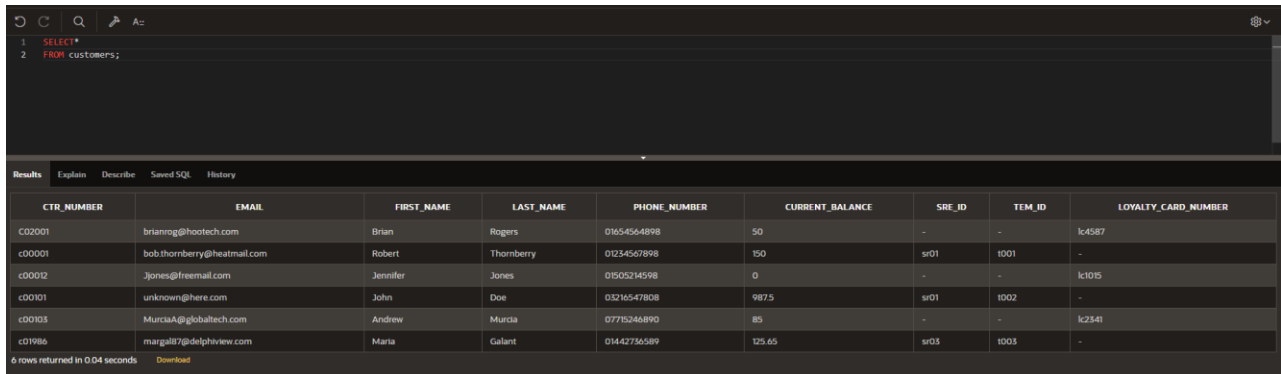
In this exercise you will retrieve data that is stored in the database system by using a SELECT statement.

Part 1: Retrieving all columns from a table.

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

1. customers.

```
SELECT*  
FROM customers;
```



CTR_NUMBER	EMAIL	FIRST_NAME	LAST_NAME	PHONE_NUMBER	CURRENT_BALANCE	SRE_ID	TEM_ID	LOYALTY_CARD_NUMBER
C02001	brianrog@hootech.com	Brian	Rogers	01654564898	50	-	-	lc4587
c00001	bob.thornberry@heatmail.com	Robert	Thornberry	01234567898	100	sr01	1001	-
c00012	jones@freemail.com	Jennifer	Jones	01505214598	0	-	-	lc1015
c00101	unknown@here.com	John	Doe	03216547808	987.5	sr01	1002	-
c00103	MurciaA@globaltech.com	Andrew	Murcia	07715246890	85	-	-	lc2341
c01986	margall87@delphiview.com	Maria	Gallant	01442736589	125.65	sr03	1003	-

6 rows returned in 0.04 seconds [Download](#)

2. teams.

```
SELECT*  
FROM teams;
```

Language	SQL	Rows	10	Clear Command	Find Tables
1	SELECT*				
2	FROM teams;				
Results	Explain	Describe	Saved SQL	History	
ID	NAME	NUMBER_OF_PLAYERS	DISCOUNT		
t004	Jets	10	5		
t001	Rockets	25	10		
t002	Celtics	42	20		
t003	Rovers	8	-		

3. items

SELECT*

FROM items;

Language	SQL	Rows	10	Clear Command	Find Tables	Save
1	SELECT*					
2	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 quality baseball bat	equipment	-	-	Il010230128
5 rows returned in 0.04 seconds Download						

Part 2: Selecting Specific Columns

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

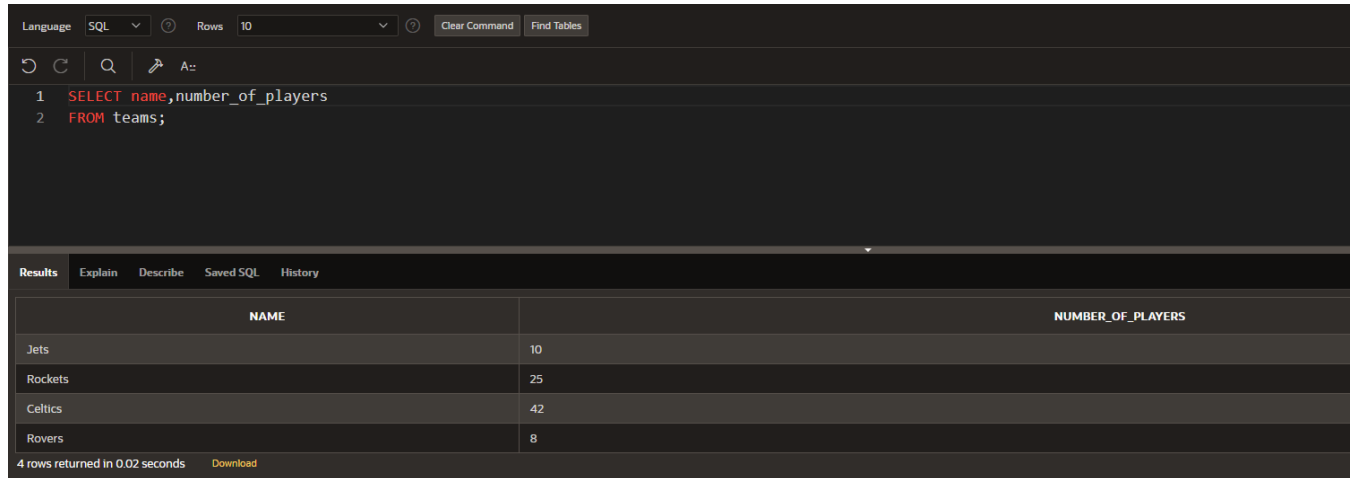
SELECT ctr_number,first_name,last_name,email,phone_number

FROM customers;

Language	SQL	Rows	10	Clear Command	Find Tables	Save
1	SELECT ctr_number,first_name,last_name,email,phone_number					
2	FROM customers;					
Results	Explain	Describe	Saved SQL	History		
CTR_NUMBER	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER		
C02001	Brian	Rogers	brianrog@hooitech.com	01654564898		
c00001	Robert	Thornberry	bob.thornberry@heatmail.com	01234567898		
c00012	Jennifer	Jones	j.jones@freemail.com	01505214598		
c00101	John	Doe	unknown@here.com	03216547808		
c00103	Andrew	Murcia	MurciaA@globaltech.com	07716546890		
c01986	Maria	Galant	margal87@delphiview.com	01442736589		
6 rows returned in 0.01 seconds Download						

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

```
SELECT name,number_of_players  
FROM teams;
```



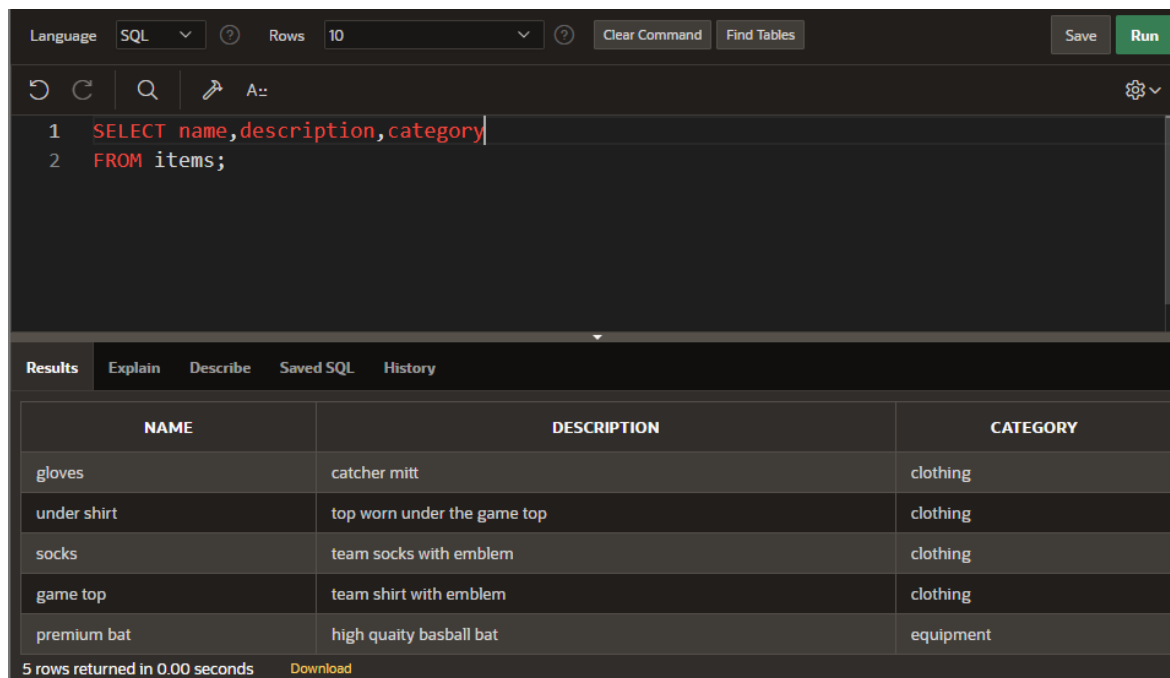
The screenshot shows a SQL query editor with the following interface elements: a top bar with 'Language' set to 'SQL', 'Rows' set to '10', and buttons for 'Clear Command' and 'Find Tables'; a command area with the query '1 SELECT name,number_of_players' and '2 FROM teams;'; and a results section with tabs for 'Results', 'Explain', 'Describe', 'Saved SQL', and 'History'. The results are displayed in a table with two columns: 'NAME' and 'NUMBER_OF_PLAYERS'.

NAME	NUMBER_OF_PLAYERS
Jets	10
Rockets	25
Celtics	42
Rovers	8

4 rows returned in 0.02 seconds [Download](#)

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

```
SELECT name,description,category  
FROM items;
```



The screenshot shows a SQL query editor with the following interface elements: a top bar with 'Language' set to 'SQL', 'Rows' set to '10', and buttons for 'Clear Command', 'Find Tables', 'Save', and 'Run'; a command area with the query '1 SELECT name,description,category' and '2 FROM items;'; and a results section with tabs for 'Results', 'Explain', 'Describe', 'Saved SQL', and 'History'. The results are displayed in a table with three columns: 'NAME', 'DESCRIPTION', and 'CATEGORY'.

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 quaity baseball bat	equipment

5 rows returned in 0.00 seconds [Download](#)



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OA Lab Exercise

<DFo 6.6.2 Project>

SECD2523 - Database

SEMESTER I, SESSION 2023/2024

Lecturer: Dr. Noor Hidayah Zakaria

Name	CHUA ERN QI
Matric Number	A22EC0044
Section	08

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.

```
SELECT first_name,last_name,current_balance,current_balance/12 AS monthly_payment
FROM customers;
```

[illegible]

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.

```
SELECT first_name,last_name,ctr_number,current balance,current balance-5
```

FROM customers;

The screenshot shows a SQL IDE interface. At the top, there's a 'SQL Commands' tab with a schema dropdown set to 'WKSP_QIQI'. Below this, there are controls for 'Language' (SQL), 'Rows' (10), and buttons for 'Clear Command', 'Find Tables', 'Save', and 'Run'. The main editor area contains the following SQL query:

```
1 SELECT first_name,last_name,ctr_number,current_balance,current_balance-5
2 FROM customers;
```

Below the editor, there's a 'Results' tab. The results are displayed in a table with the following columns: FIRST_NAME, LAST_NAME, CTR_NUMBER, CURRENT_BALANCE, and CURRENT_BALANCE-5. The table contains 6 rows of data. At the bottom of the results section, it says '6 rows returned in 0.01 seconds' and there is a 'Download' button.

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

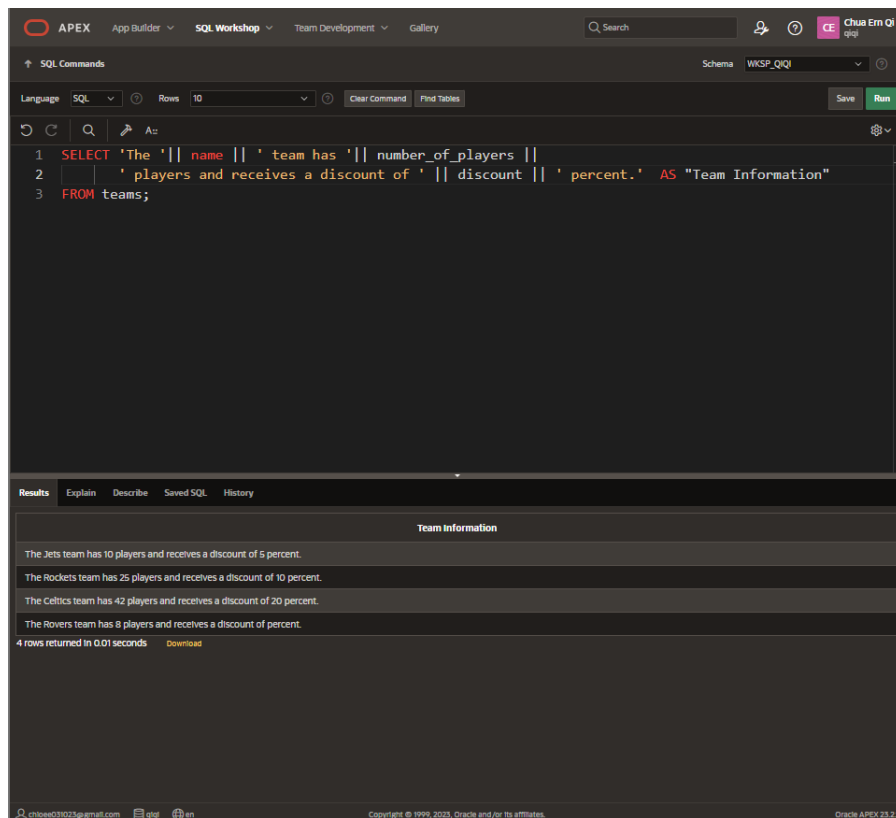
3. What would be the problem with implementing this scheme?

The current balance value after minus gift value will appear as negative value if the original value is less than 5 and it seems confused and inaccurate.

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 columnaliases. The aliases are to be shown exactly as described (case sensitive).

```
SELECT first_name "First Name",  
       last_name "Last Name",  
       current_balance "Balance",  
       current_balance/12 "Monthly Repayments"  
FROM customers;
```

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

The last team has a NULL value for the discount column. It will concatenate a NULL with a character resulting in a character string.



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<DFo 6.7.1 Project>

SECD2523 - Database

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Lecturer: Dr. Noor Hidayah Zakaria

Name	CHUA ERN QI
Matric Number	A22EC0044
Section	08

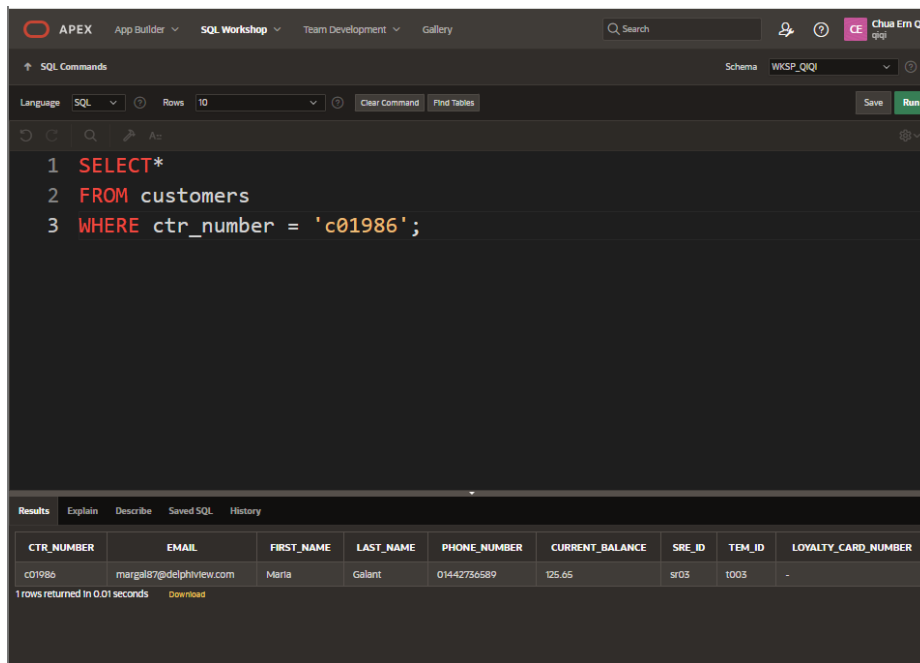
Part 1: Using the WHERE Clause.

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

```
SELECT*
```

```
FROM customers
```

```
WHERE ctr_number = 'c01986';
```



The screenshot shows the APEX SQL Workshop interface. The SQL command area contains the following query:

```
1 SELECT*
2 FROM customers
3 WHERE ctr_number = 'c01986';
```

The Results tab is selected, displaying a table with the following data:

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	1003	-

1 rows returned in 0.01 seconds. A Download link is visible below the table.

2. 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.

```
SELECT first_name "First Name",
```

```
last_name "Last Name",
```

```
ctr_number "Customer Number"
```

```
FROM customers
```

```
WHERE current_balance > 100;
```

The screenshot shows the APEX SQL Workshop interface. The SQL command area contains the following query:

```
1 SELECT first_name "First Name",
2       last_name "Last Name",
3       ctr_number "Customer Number"
4 FROM customers
5 WHERE current_balance > 100;
```

The results tab shows 3 rows returned in 0.01 seconds. The data is as follows:

First Name	Last Name	Customer Number
Robert	Thornberry	c00001
John	Doe	c00101
Maria	Gallant	c01986

- 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.

```
SELECT id "Order ID",odr_date "Order Date",odr_time "Order Time"
FROM orders
WHERE odr_date < '05/28/2019';
```

The screenshot shows the APEX SQL Workshop interface. The SQL command area contains the following query:

```
1 SELECT id "Order ID",odr_date "Order Date",odr_time "Order Time"
2 FROM orders
3 WHERE odr_date < '05/28/2019';
```

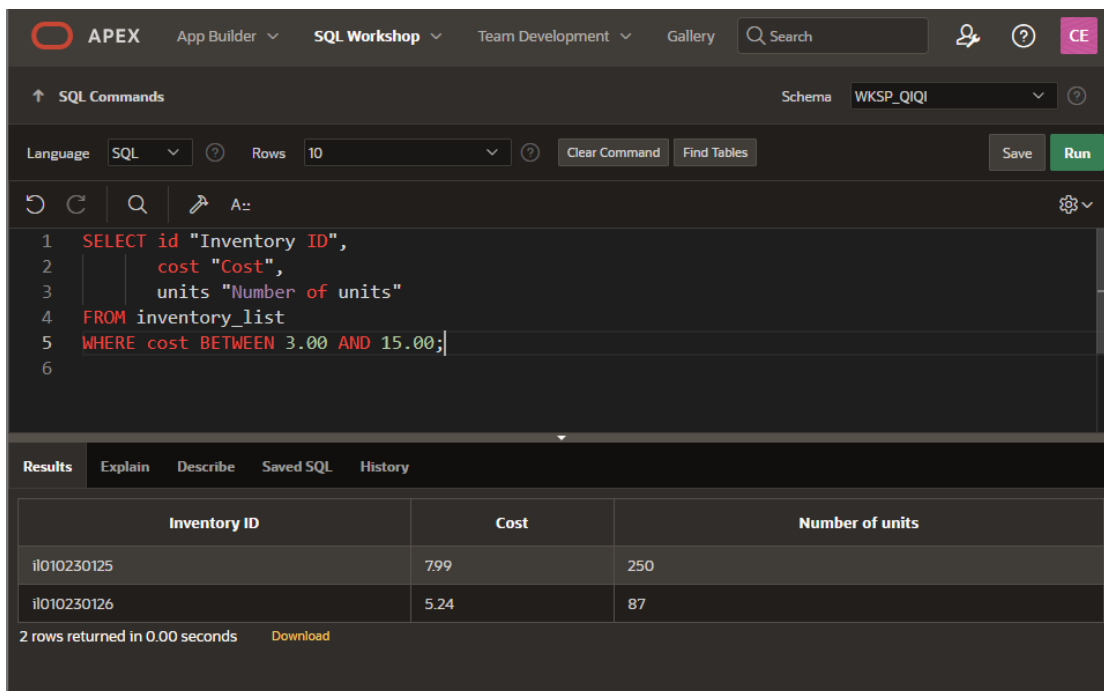
The results tab shows 5 rows returned in 0.01 seconds. The data is as follows:

Order ID	Order Date	Order Time
ord101250	04/17/2017	04/17/2017
ord101350	05/24/2017	05/24/2017
ord101425	05/28/2017	05/28/2017
ord101681	06/02/2017	06/02/2017
ord101750	06/18/2017	06/18/2017

Part 2: Range Conditions: BETWEEN Operator

1. 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.

```
SELECT id "Inventory ID",  
       cost "Cost",  
       units "Number of units"  
FROM inventory_list  
WHERE cost BETWEEN 3.00 AND 15.00;
```



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

```
1 SELECT id "Inventory ID",  
2     cost "Cost",  
3     units "Number of units"  
4 FROM inventory_list  
5 WHERE cost BETWEEN 3.00 AND 15.00;  
6
```

The Results tab is also active, showing the following table:

Inventory ID	Cost	Number of units
il010230125	7.99	250
il010230126	5.24	87

2 rows returned in 0.00 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.

```
SELECT id "Inventory ID",  
       cost "Cost",  
       units "Number of units"
```

FROM inventory_list

WHERE units IN(50,100,150,200);

The screenshot shows the APEX SQL Workshop interface. At the top, there's a navigation bar with 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. A search bar and user profile are on the right. Below this, the 'SQL Commands' section shows the schema 'WKSP_QIQI'. The 'Language' is set to 'SQL' and 'Rows' to '10'. The query editor contains the following SQL code:

```
1 SELECT id "Inventory ID",
2       cost "Cost",
3       units "Number of units"
4 FROM inventory_list
5 WHERE units IN(50,100,150,200);
6
```

Below the editor, the 'Results' tab is active, showing a table with the following data:

Inventory ID	Cost	Number of units
il010230124	2.5	100

At the bottom, it states '1 rows returned in 0.03 seconds' and provides 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.

SELECT id "Inventory ID",

cost "Cost",

units "Number of units"

FROM inventory_list

WHERE units NOT IN(50,100,150,200);

APEX App Builder SQL Workshop Team Development Gallery Search

SQL Commands Schema WKSP_QIQI

Language SQL Rows 10 Clear Command Find Tables Save Run

```

1 SELECT id "Inventory ID",
2       cost "Cost",
3       units "Number of units"
4 FROM inventory_list
5 WHERE units NOT IN(50,100,150,200);
6

```

Results Explain Describe Saved SQL History

Inventory ID	Cost	Number of units
il010230125	7.99	250
il010230126	5.24	87
il010230127	18.95	65
il010230128	97.46	8

4 rows returned in 0.01 seconds Download

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.

```

SELECT itm_number "Item Number", name "Item Name"
FROM items
WHERE name LIKE 'g%';

```


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 a 'CE' button are on the right. Below the navigation bar, the 'SQL Commands' section is active, showing a query in the 'Language' dropdown set to 'SQL'. The 'Schema' is set to 'WKSP_QIQI'. The query is:

```
1 SELECT itm_number "Item Number", name "Item Name"
2 FROM items
3 WHERE name LIKE 'g%';
4
```

The 'Results' tab is selected, showing a table with two columns: 'Item Number' and 'Item Name'. The table contains two rows of data:

Item Number	Item Name
im01101044	gloves
im01101047	game top

Below the table, it states '2 rows returned in 0.01 seconds' and provides a 'Download' link.

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.

SELECT itm_number "Item Number", name "Item Name"

FROM items

WHERE name LIKE '%o%';

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 a 'CE' button are on the right. Below the navigation bar, the 'SQL Commands' section is active, showing a query in the 'Language' dropdown set to 'SQL'. The 'Schema' is set to 'WKSP_QIQI'. The query is:

```
1 SELECT itm_number "Item Number", name "Item Name"
2 FROM items
3 WHERE name LIKE '%o%';
4
```

The 'Results' tab is selected, showing a table with two columns: 'Item Number' and 'Item Name'. The table contains three rows of data:

Item Number	Item Name
im01101044	gloves
im01101046	socks
im01101047	game top

Below the table, it states '3 rows returned in 0.01 seconds' and provides a 'Download' link.



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Lecturer: Dr. Noor Hidayah Zakaria

Name	CHUA ERN QI
Matric Number	A22EC0044
Section	08

Section 6 Lesson 7 Exercise 2: Restricting Data Using WHERE

Limit rows using WHERE (S6L7 Objective 1)

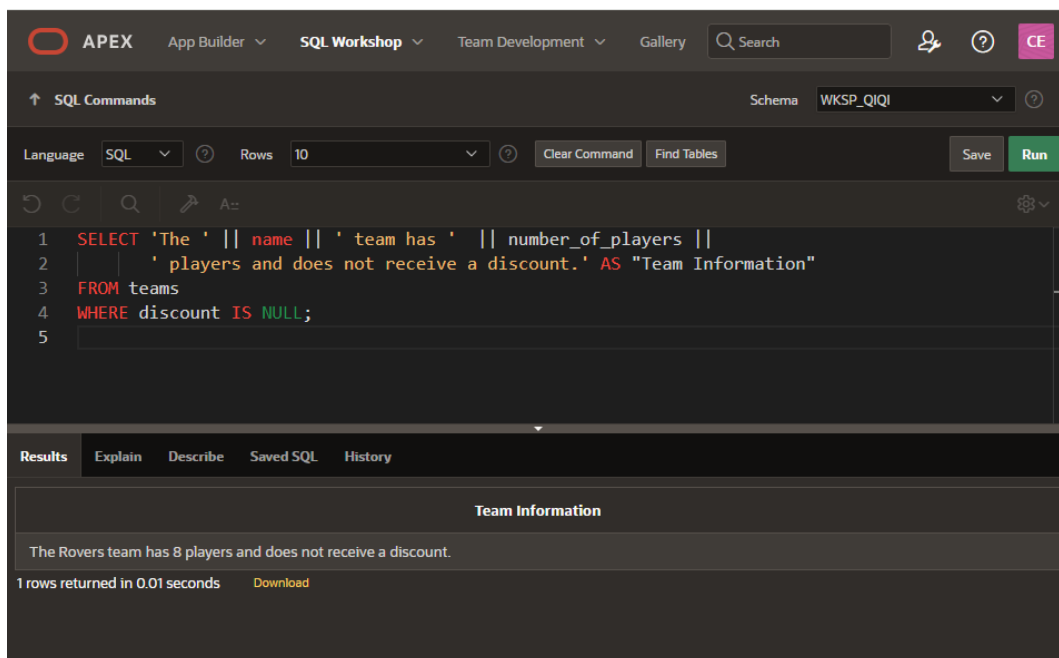
In this exercise you will refine the data that is returned in your query by adding a WHERE clause to your SELECT statement.

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.

```
SELECT 'The ' || name || ' team has ' || number_of_players ||  
      ' players and does not receive a discount.' AS "Team Information"  
FROM teams  
WHERE discount IS NULL;
```



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.

```
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 screenshot shows the APEX SQL Workshop interface. The top navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. The 'SQL Commands' section is active, showing a query in the 'WKSP_QIQI' schema. The query is:

```
1 SELECT 'The ' || name || ' team has ' || number_of_players ||  
2      ' players and receives a discount of ' || discount || ' percent.' AS "Team Information"  
3 FROM teams  
4 WHERE discount IS NOT NULL;  
5
```

The 'Results' tab is selected, displaying the following data:

Team Information
The Jets team has 10 players and receives a discount of 5 percent.
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.

At the bottom, it states '3 rows returned in 0.01 seconds' with a 'Download' link.

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 thestarford area of Liverpool. Use Customer Number, Street Address and Postal Code as the column aliases.

SELECT ctr_number "Customer Number",

address_line_1 "Street Address",

zip_code "Postal Code"

FROM customers_addresses

WHERE city = 'Liverpool' AND address_line_2 = 'Starford';

The screenshot shows the APEX SQL Workshop interface. At the top, there's a navigation bar with 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. A search bar and user profile are also present. Below this, the 'SQL Commands' section shows a schema dropdown set to 'WKSP_QIQI'. The 'Language' is set to 'SQL' and 'Rows' to '10'. The SQL command entered is:

```

1 SELECT ctr_number "Customer Number",
2        address_line_1 "Street Address",
3        zip_code "Postal Code"
4 FROM customers_addresses
5 WHERE city = 'Liverpool' AND address_line_2 = 'Starford';
6
7

```

The 'Results' tab is active, showing a table with the following data:

Customer Number	Street Address	Postal Code
c00001	17 Gartsquare Road	LP89JHK

Below the table, it states '1 rows returned in 0.05 seconds' and provides 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 columnaliases.

```

SELECT ctr_number "Customer Number",
       address_line_1 "Street Address",
       zip_code "Postal Code"
FROM customers_addresses
WHERE city = 'Liverpool' OR address_line_2 = 'Starford';

```

APEX App Builder SQL Workshop Team Development Gallery Search ? ? CE

SQL Commands Schema WKSP_QIQI ?

Language SQL ? Rows 10 ? Clear Command Find Tables Save Run

```

1 SELECT ctr_number "Customer Number",
2       address_line_1 "Street Address",
3       zip_code "Postal Code"
4 FROM customers_addresses
5 WHERE city = 'Liverpool' OR address_line_2 = 'Starford';
6
7

```

Results Explain Describe Saved SQL History

Customer Number	Street Address	Postal Code
c00001	83 Barrhill Drive	LP79HJK
c00001	17 Gartsquare Road	LP89JHK
c00001	63 Acacia Drive	LP83JHR

3 rows returned in 0.01 seconds Download

Part 4: Logical Operators: NOT Equal To

- 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.

```

SELECT ctr_number "Customer Number",
       address_line_1 "Street Address",
       zip_code "Postal Code"
FROM customers_addresses
WHERE city NOT IN('Liverpool');

```

APEX

App Builder

SQL Workshop

Team Development

Gallery

Q Search

?

CE

↑ SQL Commands

Schema WKSP_QIQI

Language SQL

Rows 10

Clear Command

Find Tables

Save

Run

↶

↷

Q

🔗

A::

⚙

1 SELECT ctr_number "Customer Number",

2 address_line_1 "Street Address",

3 zip_code "Postal Code"

4 FROM customers_addresses

5 WHERE city NOT IN('Liverpool');

6

7

Results

Explain

Describe

Saved SQL

History

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

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



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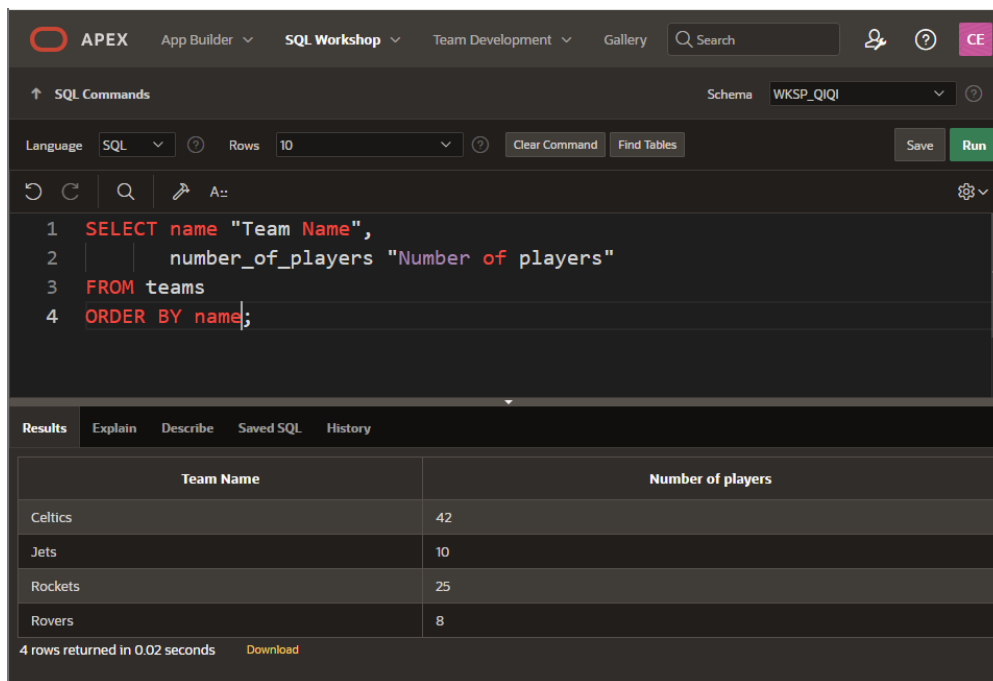
Section 6 Lesson 8 Exercise 1: Sorting Data Using ORDER BY

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.

```
SELECT name "Team Name",  
       number_of_players "Number of players"  
FROM teams  
ORDER BY name;
```



The screenshot shows the APEX SQL Workshop interface. The top navigation bar includes the APEX logo, App Builder, SQL Workshop, Team Development, and Gallery. A search bar and user profile are also visible. The main area displays the SQL Commands tab with the following query:

```
1 SELECT name "Team Name",  
2       number_of_players "Number of players"  
3 FROM teams  
4 ORDER BY name;
```

Below the query editor, the Results tab is active, showing a table with the following data:

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

At the bottom of the results section, it states "4 rows returned in 0.02 seconds" and provides a "Download" link.

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

```
SELECT name "Team Name",  
       number_of_players "Number of players"  
FROM teams  
ORDER BY number_of_players DESC;
```

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

```
1 SELECT name "Team Name",
2    number_of_players "Number of players"
3 FROM teams
4 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 0.02 seconds

- 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.

Alphabetically in order of team name:

SELECT name,number_of_players

FROM teams

ORDER BY name;

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

```
1 SELECT name,number_of_players
2 FROM teams
3 ORDER BY name;
```

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

NAME	NUMBER_OF_PLAYERS
Celtics	42
Jets	10
Rockets	25
Rovers	8

4 rows returned in 0.00 seconds

Descending order of name using alias:

```
SELECT name "Team Name",  
        number_of_players "Players"  
FROM teams  
ORDER BY "Team Name" DESC;
```

The screenshot shows the APEX SQL Workshop interface. At the top, there's a navigation bar with 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. Below this, the 'SQL Commands' section is active, showing a schema dropdown set to 'WKSP_QIQI'. The 'Language' is set to 'SQL' and 'Rows' is set to '10'. The SQL command area contains the following query:

```
1 SELECT name "Team Name",  
2     number_of_players "Players"  
3 FROM teams  
4 ORDER BY "Team Name" DESC;
```

Below the command area, the 'Results' tab is selected, showing a table with two columns: 'Team Name' and 'Players'. The table contains four rows of data:

Team Name	Players
Rovers	8
Rockets	25
Jets	10
Celtics	42

At the bottom, it states '4 rows returned in 0.01 seconds' and provides a 'Download' link.



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OA Lab Exercise

<DFo 6.8.2 Project>

SECD2523 - Database

SEMESTER I, SESSION 2023/2024

Lecturer: Dr. Noor Hidayah Zakaria

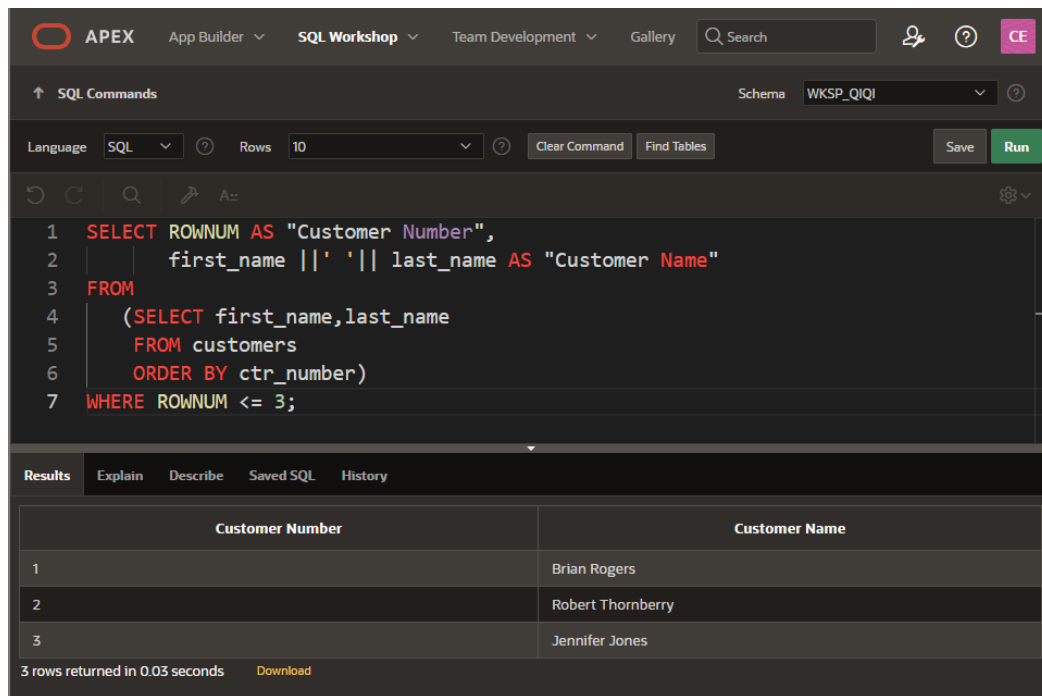
Name	CHUA ERN QI
Matric Number	A22EC0044
Section	08

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.

```
SELECT ROWNUM AS "Customer Number",  
       first_name || ' ' || last_name AS "Customer Name"  
FROM  
(SELECT first_name,last_name  
 FROM customers  
 ORDER BY ctr_number)  
WHERE ROWNUM <= 3;
```



The screenshot shows the APEX SQL Workshop interface. The SQL command is entered in the editor and executed. The results are displayed in a table with two columns: Customer Number and Customer Name. The first three rows are shown.

Customer Number	Customer Name
1	Brian Rogers
2	Robert Thornberry
3	Jennifer Jones

3 rows returned in 0.03 seconds [Download](#)

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.

```
SELECT first_name || ' ' || last_name AS "Sales Representative"
```

```
FROM sales_representatives
```

```
WHERE commission_rate = :commission_rate
```

```
ORDER BY last_name;
```

<input type="button" value="Submit"/>	
Bind Variable	Value
:COMMISSION_RATE	5

APEX

App Builder

SQL Workshop

Team Development

Gallery

Search

CE

SQL Commands

Schema WKSP_QIQI

Language SQL

Rows 10

Clear Command

Find Tables

Save

Run

1 SELECT first_name || ' ' || last_name AS "Sales Representative"

2 FROM sales_representatives

3 WHERE commission_rate = :commission_rate

4 ORDER BY last_name;

Results

Explain

Describe

Saved SQL

History

Sales Representative

Barry Speed

Victoria Wright

2 rows returned in 0.01 seconds

Download