

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 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;
```

The screenshot shows a browser window for apex.oracle.com with the URL apex.oracle.com/pls/apex/r/apex/sql-workshop/sqlcommandprocessor?session=9877275438499. The page title is "APEX". The main content area is titled "SQL Commands". A code editor shows the following SQL command:

```
1 SELECT*
2 FROM customers;
```

Below the code editor is a results grid. The header row contains the following columns: CTR_NUMBER, EMAIL, FIRST_NAME, LAST_NAME, PHONE_NUMBER, CURRENT_BALANCE, SRE_ID, TEM_ID, and LOYALTY_CARD_NUMBER. The data grid displays 6 rows of customer information:

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	Jones@freemail.com	Jennifer	Jones	01505214598	0	-	-	lc1015
c00101	unknown@here.com	John	Doe	03216547808	987.5	sr01	t002	-
c00103	Murcia@globaltech.com	Andrew	Murcia	07715246890	85	-	-	lc2541
c01986	margal87@delphiview.com	Maria	Galant	01442736589	125.65	sr05	t005	-
c02001	brianrog@hootech.com	Brian	Rogers	01654564898	50	-	-	lc4587

At the bottom of the results grid, it says "6 rows returned in 0.03 seconds" and has a "Download" link. The status bar at the bottom right shows "2:12 PM 10/12/2023".

2. teams.

```
SELECT*
FROM teams;
```

The screenshot shows the Oracle APEX SQL Workshop interface. The query window contains the following SQL code:

```
1 SELECT*
2 FROM teams;
```

The results section displays the following data:

ID	NAME	NUMBER_OF_PLAYERS	DISCOUNT
1001	Rockets	25	10
1002	Celtics	42	20
1003	Rovers	8	-
1004	Jets	10	5

4 rows returned in 0.03 seconds

A file named 'report.csv' is shown in the 'Received Files' window.

3. Items

SELECT*
FROM Items;

The screenshot shows the Oracle APEX SQL Workshop interface. The query window contains the following SQL code:

```
1 SELECT*
2 FROM Items;
```

The results section displays the following data:

ITM_NUMBER	NAME	DESCRIPTION	CATEGORY	COLOR	Size	ILT_ID
im0101044	gloves	catcher mitt	clothing	brown	m	i010230124
im0101045	under shirt	top worn under the game top	clothing	white	s	i010230125
im0101046	socks	team socks with emblem	clothing	range	l	i010230126
im0101047	game top	team shirt with emblem	clothing	range	m	i010230127
im0101048	premium bat	high quality baseball bat	equipment	-	-	i010230128

5 rows returned in 0.04 seconds

Part 2: Selecting Specific Columns

- 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;**

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

```
1 SELECT ctr_number, first_name, last_name, email, phone_number
2 | FROM customers;
```

The results section displays a table with the following data:

CTR_NUMBER	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER
c00001	Robert	Thornberry	bob.thornberry@heatmail.com	01234567898
c00012	Jennifer	Jones	j.jones@freemail.com	01505214598
c00101	John	Doe	unknown@here.com	05216547808
c00103	Andrew	Murcia	MurciaA@globaltech.com	07715246890
c01986	Maria	Galant	margal87@delphiview.com	01442736589
c02001	Brian	Rogers	brianrog@hootech.com	01654564898

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

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

SELECT name, number_of_players

FROM teams;

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

```
1 SELECT name, number_of_players
2 | FROM teams;
```

The results section displays a table with the following data:

NAME	NUMBER_OF_PLAYERS
Rockets	25
Celtics	42
Rovers	8
Jets	10

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

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

SELECT name,description, category

FROM items;

The screenshot shows a Windows desktop environment with a taskbar at the bottom containing various application icons. The main window is the Oracle SQL Workshop interface, specifically the SQL Command Processor. The URL in the browser bar is `apex.oracle.com/pls/apex/r/apex/sql-workshop/sqlcommandprocessor?session=9877275438499`. The top navigation bar includes links for APEX, App Builder, SQL Workshop, Team Development, and Gallery. The SQL Workshop tab is selected. On the left, there are dropdown menus for Language (SQL), Rows (10), and Buttons for Clear Command and Find Tables. On the right, there are buttons for Save and Run, and a Schema dropdown set to WKS_P_RAOMAN0702. The central workspace contains a code editor with the following SQL query:

```
1 SELECT name,description, category
2  | FROM items;
```

Below the code editor is a results grid with three columns: NAME, DESCRIPTION, and CATEGORY. The data returned is:

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 quality baseball bat	equipment

At the bottom of the results grid, it says "5 rows returned in 0.00 seconds" and has a "Download" link. The status bar at the bottom right shows the time as 2:29 PM and the date as 10/12/2023.

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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 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/12
```

FROM customers;

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

FROM customers;

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

```
1 SELECT first_name, last_name, current_balance, ROUND(current_balance/12,2)
2 FROM customers;
```

The results table displays the following data:

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

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

- 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 the Oracle APEX SQL Workshop interface. The query entered is:

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

The results table displays the following data:

FIRST_NAME	LAST_NAME	CTR_NUMBER	CURRENT_BALANCE	CURRENT_BALANCE-5
Robert	Thornberry	c00001	150	145
Jennifer	Jones	c00012	0	-5
John	Doe	c00101	9875	982.5
Andrew	Murcia	c00103	85	80
Maria	Galant	c01986	125.65	120.65
Brian	Rogers	c02001	50	45

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

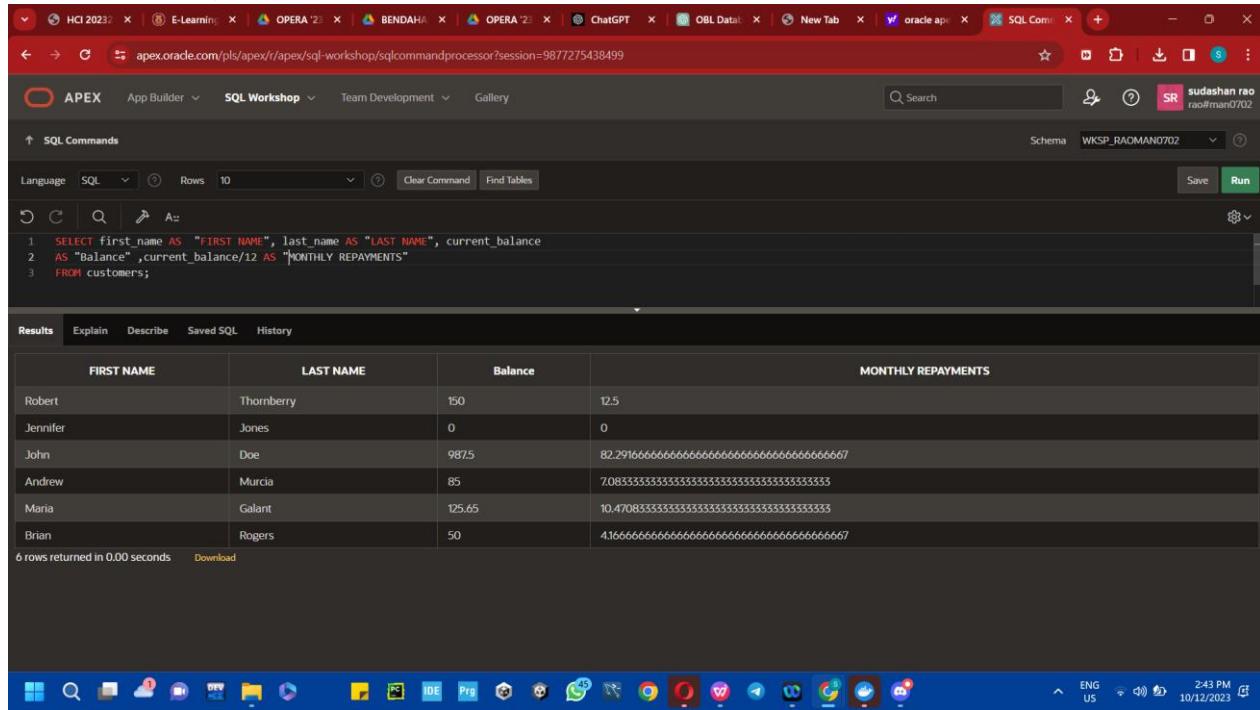
- What would be the problem with implementing this scheme?

If the current balance is already less than 5, subtracting 5 would result in a negative value. We might want to add a check ensure that the current balance doesn't go 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).

```
SELECT first_name AS " FIRST NAME", last_name AS "LAST NAME", current_balance  
AS "Balance",current_balance/12 AS "MONTHLY REPAYMENTS"  
FROM customers;
```



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.

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

The screenshot shows a SQL command window with the following details:

- SQL Commands** tab is selected.
- Language**: SQL.
- Rows**: 10.
- Schema**: WKSP_DATABASEBIOINFOR.
- Run** button is visible.
- SQL Query:**

```
1 SELECT 'the ' || name || ' team has ' || number_of_players || ' players and receives a discount of ' || discount || ' percent.' AS "Team Information"
2 FROM teams;
```
- Results Tab** is selected.
- Team Information** section displays the results:
 - 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.
- Timing**: 3 rows returned in 0.03 seconds.
- Download** link is present.

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

The value is null and not equal to zero.

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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 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.

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 a browser window for apex.oracle.com with multiple tabs open. The active tab is 'SQL Workshop'. The SQL command entered is:

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

The results section displays a single row from the customers table:

CTR_NUMBER	EMAIL	FIRST_NAME	LAST_NAME	PHONE_NUMBER	CURRENT_BALANCE	SRE_ID	TEM_ID	LOYALTY_CARD_NUMBER
c01986	marga87@delphiview.com	Maria	Galant	01442736589	125.65	sr03	t003	-

Below the table, it says '1 rows returned in 0.03 seconds'.

The system tray at the bottom shows various icons and the date/time: 10/12/2023, 6:38 PM, ENG US.

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 AS " FIRST NAME", last_name AS "Last Name", current_balance AS "Balance"
FROM customers
WHERE current_balance >100;
```

The screenshot shows the Oracle SQL Workshop interface. The query window contains the following SQL code:

```

1 SELECT first_name AS "FIRST NAME", last_name AS "Last Name", current_balance AS "Balance"
2 FROM customers
3 WHERE current_balance >100;

```

The results pane displays a table with three rows:

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

3 rows returned in 0.01 seconds

3. 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 AS "Order ID" ,odr_date AS "Order Date", TO_CHAR(odr_time, 'HH24:MI:SS') AS "Order Time"

```

```

FROM orders

```

```

WHERE odr_date < '28-May-2017';

```

The screenshot shows the Oracle SQL Workshop interface. The query window contains the following SQL code:

```

1 SELECT ID AS "ORDER ID", ODR_DATE AS "ORDER DATE", TO_CHAR(ODR_TIME, 'HH24:MI:SS') AS "ORDER TIME"
2 FROM ORDERS
3 WHERE ODR_DATE < TO_DATE('28-MAY-2017', 'DD-MON-YYYY');

```

The results pane displays a table with five rows:

ORDER ID	ORDER DATE	ORDER TIME
or0101250	04/17/2017	08:32:30
or0101350	05/24/2017	10:30:35
or0101425	05/28/2017	12:30:00
or0101681	06/02/2017	14:55:30
or0101750	06/18/2017	09:05:00

5 rows returned in 0.03 seconds

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 AS "Inventory ID", cost AS "Cost", units AS "Number of Units in Stock"
FROM inventory_list
WHERE cost BETWEEN 3 AND 15;
```

The screenshot shows a SQL query being run in an Oracle database. The query selects inventory ID, cost, and number of units in stock where the cost is between 3 and 15. The results show two rows: one with inventory ID i010230125 and another with i010230126. Both rows have a cost of 7.99 and 5.24 respectively, and 250 and 87 units in stock. The interface includes tabs for Results, Explain, Describe, Saved SQL, and History, and various toolbar icons.

Inventory ID	Cost	Number of Units in Stock
i010230125	7.99	250
i010230126	5.24	87

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

janeng251@gmail.com bioinfo_database en Copyright © 1999, 2023, Oracle and/or its affiliates.

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

The screenshot shows a SQL query being run in an Oracle database. The query selects inventory ID, cost, and number of units in stock where the units are in the list (50, 100, 150, 200, 250). The results show two rows: one with inventory ID i010230124 and another with i010230125. Both rows have a cost of 2.5 and 7.99 respectively, and 100 and 250 units in stock. The interface includes tabs for Results, Explain, Describe, Saved SQL, and History, and various toolbar icons.

Inventory ID	Cost	Number of Units in Stock
i010230124	2.5	100
i010230125	7.99	250

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

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

The screenshot shows a SQL query execution interface. At the top, there are buttons for Language (SQL), Rows (set to 10), Clear Command, and Find Tables. Below the query text, there are buttons for Results, Explain, Describe, Saved SQL, and History. The Results tab is selected. 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 table has three columns: Inventory ID, Cost, and Number of Units in Stock. The data is:

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

At the bottom left, it says "3 rows returned in 0.00 seconds".

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 AS "Item ID", name AS "Item Name"  
FROM items  
WHERE name LIKE 'g%';
```

Language SQL Rows 10 Clear Command Find Tables Save Run

SELECT item_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.

```
SELECT item_number AS "Item ID", name AS "Item Name"  
FROM items  
WHERE name LIKE '%o%';
```

apex.oracle.com/pls/apex/r/apex/sql-workshop/sqlcommandprocessor?session=6737823554010

APEX App Builder SQL Workshop Team Development Gallery Search sudashan rao rao#man0702

SQL Commands Schema WKSP_RAOMAN0702

Language SQL Rows 10 Clear Command Find Tables Save Run

1 SELECT item_number AS "Item ID", name AS "Item Name"
2 FROM items
3 WHERE name LIKE '%%;'

Results Explain Describe Saved SQL History

Item ID	Item Name
im01101044	gloves
im01101046	socks
im01101047	game top

3 rows returned in 0.02 seconds Download



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UTM

UNIVERSITI TEKNOLOGI MALAYSIA

SECD2523 - DATABASE

DR HASLINA BINTI HASHIM

SQL3 – DML2

2023/2024

PREPARED BY: TEAM HAPPY

NO.	NAME	MATRIC NO.
1.	JANE NG JING YING	A22EC0170
2.	ONG JIA YU	A22EC0258
3.	ONG SHUN SHENG	A22EC0259
4.	TOO JUN XUN	A22EC0288

SUBMISSION DATE: 10/12/2023

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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 a database interface with two tabs: "Worksheet" and "Query Builder". The "Worksheet" tab contains the following SQL code:

```
SELECT* FROM TEAMS  
WHERE TEAMS.DISCOUNT IS NULL;
```

The "Query Result" tab shows the output of the query:

ID	NAME	NUMBER_OF_PLAYERS	DISCOUNT
1	t003 Rovers	8	(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.

WORKSHEET | Query builder

```
SELECT* FROM TEAMS  
WHERE TEAMS.DISCOUNT IS NOT NULL;
```

Query Result x

SQL | All Rows Fetched: 3 in 0.133 seconds

ID	NAME	NUMBER_OF_PLAYERS	DISCOUNT
1	t001 Rockets	25	10
2	t002 Celtics	42	20
3	t004 Jets	10	5

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.

```
SELECT ctr_number, ADDRESS_LINE_1, ZIP_CODE  
FROM customers_addresses  
WHERE CUSTOMERS_ADDRESSES.ADDRESS_LINE_2 = 'Starford'  
AND CUSTOMERS_ADDRESSES.CITY = 'Liverpool';
```

Query Result x

SQL | All Rows Fetched: 1 in 0.377 seconds

CTR_NUMBER	ADDRESS_LINE_1	ZIP_CODE
1 c00001	17 Gartsquare Road	LP89JHK

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 a 'Query builder' interface with two main panes. The top pane contains the SQL query:

```
SELECT ctr_number, ADDRESS_LINE_1, ZIP_CODE
FROM customers_addresses
WHERE CUSTOMERS_ADDRESSES.ADDRESS_LINE_2 = 'Starford'
OR CUSTOMERS_ADDRESSES.CITY = 'Liverpool';
```

The bottom pane is titled 'Query Result' and displays the fetched data:

	CTR_NUMBER	ADDRESS_LINE_1	ZIP_CODE
1	c00001	17 Gartsquare Road	LP89JHK
2	c00001	63 Acacia Drive	LP83JHR

All Rows Fetched: 2 in 0.023 seconds

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.

Worksheet Query Builder

```
SELECT ctr_number, ADDRESS_LINE_1, ZIP_CODE
FROM customers_addresses
WHERE CUSTOMERS_ADDRESSES.CITY != 'Liverpool';
```

Query Result x

All Rows Fetched: 2 in 0.152 seconds

	CTR_NUMBER	ADDRESS_LINE_1	ZIP_CODE
1	c00101	54 Ropehill Crescent	ST45AGV
2	c01986	36 Watercress Lane	JP23YTH

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UTM
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SECD2523 - DATABASE

DR HASLINA BINTI HASHIM

SQL3 – DML2

2023/2024

PREPARED BY: TEAM HAPPY

NO.	NAME	MATRIC NO.
1.	JANE NG JING YING	A22EC0170
2.	ONG JIA YU	A22EC0258
3.	ONG SHUN SHENG	A22EC0259
4.	TOO JUN XUN	A22EC0288

SUBMISSION DATE: 10/12/2023

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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.

Worksheet Query Builder

```
SELECT NAME, NUMBER_OF_PLAYERS
FROM TEAMS
ORDER BY NAME ASC;
```

Query Result x

SQL | All Rows Fetched: 4 in 0.114 seconds

NAME	NUMBER_OF_PLAYERS
1 Celtics	42
2 Jets	10
3 Rockets	25
4 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.

Worksheet Query Builder

```
SELECT NAME, NUMBER_OF_PLAYERS
FROM TEAMS
ORDER BY NUMBER_OF_PLAYERS DESC;
```

Query Result x

SQL | All Rows Fetched: 4 in 0.005 seconds

NAME	NUMBER_OF_PLAYERS
1 Celtics	42
2 Rockets	25
3 Jets	10
4 Rovers	8

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 Oracle SQL Developer interface. The top window is titled "Worksheet" and contains the following SQL code:

```
SELECT NAME AS Team_Name, NUMBER_OF_PLAYERS AS Players
FROM TEAMS
ORDER BY NAME DESC;
```

The bottom window is titled "Query Result" and displays the results of the executed query. The results are presented in a table with two columns: TEAM_NAME and PLAYERS. The data is as follows:

TEAM_NAME	PLAYERS
1 Rovers	8
2 Rockets	25
3 Jets	10
4 Celtics	42

The status bar at the bottom of the "Query Result" window indicates "All Rows Fetched: 4 in 0.105 seconds".

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 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 "Order of Membership", 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 a browser window with multiple tabs open at the top, including HCI 202, E-Learn, OPERA, BENDA!, ChatGPT, OBL Dat, New Tab, oracle a, SQL Cor, and SECD25. The main content is the Oracle APEX SQL Workshop interface. At the top, there are navigation links for APEX, App Builder, SQL Workshop (selected), Team Development, and Gallery. A search bar and user profile 'sudashan rao' are also present. Below the header, a toolbar includes Language (SQL selected), Rows (10), Clear Command, Find Tables, Save, and Run. The SQL editor contains the following code:

```
4 FROM customers
5 ORDER BY ctr_number)
6 WHERE ROWNUM <=3;
```

The Results tab is active, displaying a table titled "Order of Membership" with two columns: "Order of Membership" and "Customer Name". The data is as follows:

Order of Membership	Customer Name
1	Robert Thornberry
2	Jennifer Jones
3	John Doe

Below the table, it says "3 rows returned in 0.03 seconds" and has a "Download" link. The system tray at the bottom shows various icons and the date/time "10/12/2023 6:59 PM".

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 Details"
  FROM sales_representatives
 WHERE commision_rate = :commission_rate
 ORDER BY last_name;
```

Screenshot of Oracle APEX SQL Workshop showing a bind variable dialog.

The URL in the browser is apex.oracle.com/pls/apex/r/apex/sql-workshop/sqlcommandprocessor?session=6737823554010.

The SQL command entered is:

```
1 | SELECT first_name || ' ' || last_name AS "Sales Representative Details"
2 | FROM sales_representatives
3 | WHERE commision_rate = :commission_rate
4 | ORDER BY last_name;
```

A modal dialog titled "Enter Bind Variables - Google Chrome" is open, showing the bind variable `:COMMISSION_RATE` with the value `5`. There are "Save" and "Run" buttons at the bottom right of the dialog.

Screenshot of Oracle APEX SQL Workshop showing the results of the SQL query execution.

The URL in the browser is apex.oracle.com/pls/apex/r/apex/sql-workshop/sqlcommandprocessor?session=6737823554010.

The SQL command executed is:

```
1 | SELECT
2 | FIRST_NAME||' '||LAST_NAME AS "SALE REPRESENTATIVES" FROM SALES_REPRESENTATIVES
3 | WHERE COMMISSION_RATE=:COMMISSION_RATE
4 | ORDER BY LAST_NAME
```

The results section shows the output:

SALE REPRESENTATIVES

Barry Speed
Victoria Wright

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