

Oracle Baseball League Store Database

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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 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.

		∯ EMAIL			♦ PHONE_NUMBER			TEM_ID	\$LOYALTY_CARD_NUMBER
1	c00001	bob.thornberry@heatmail.com	Robert	Thornberry	01234567898	150	sr01	t001	(null)
2	c00012	Jjones@freemail.com	Jennifer	Jones	01505214598	0	(null)	(null)	lc1015
3	c00101	unknown@here.com	John	Doe	03216547808	987.5	sr01	t002	(null)
4	c00103	MurciaA@globaltech.com	Andrew	Murcia	07715246890	85	(null)	(null)	1c2341
5	c01986	margal87@delphiview.com	Maria	Galant	01442736589	125.65	sr03	t003	(null)
6	c02001	brainrog@hootech.com	Brian	Rogers	01654564898	-5	(null)	(null)	Ic4587

2. teams.

	∯ ID	NAME	NUMBER_OF_PLAYERS	
1	t001	Rockets	25	10
2	t002	Celtics	42	20
3	t003	Rovers	8	(null)
4	t004	Jets	10	5

3. items

		♦ NAME	DESCRIPTION ■	♦ CATEGORY	♦ COLOR	Size	
1	im01101044	gloves	catcher mitt	clothing	brown	m	i1010230124
2	im01101045	under shirt	top worn under the game top	clothing	white	S	i1010230125
3	im01101046	socks	team socks with emblem	clothing	range	1	i1010230126
4	im01101047	game top	team shirt with emblem	clothing	range	m	i1010230127
5	im01101048	premium bat	high quaity basball bat	equipment	(null)	(null)	i1010230128

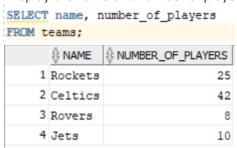
Part 2: Selecting Specific Columns

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

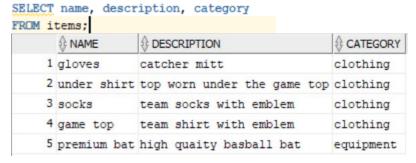
SELECT ctr_number, first_name, last_name, email, phone_number

			LAST_NAME		♦ PHONE_NUMBER
1	c00001	Robert	Thornberry	bob.thornberry@heatmail.com	01234567898
2	c00012	Jennifer	Jones	Jjones@freemail.com	01505214598
3	c00101	John	Doe	unknown@here.com	03216547808
4	c00103	Andrew	Murcia	MurciaA@globaltech.com	07715246890
5	c01986	Maria	Galant	margal87@delphiview.com	01442736589
6	c02001	Brian	Rogers	brainrog@hootech.com	01654564898

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



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



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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 AS monthly_payment
FROM customers;
```

			♦ MONTHLY_PAYMENT
1	Robert	Thornberry	12.5
2	Jennifer	Jones	0
3	John	Doe	82.291666666666666666666666666666666666
4	Andrew	Murcia	7.0833333333333333333333333333333333333
5	Maria	Galant	10.4708333333333333333333333333333333333

2. Oblis 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-5 AS balance_minus_giftvalue
FROM customers;

		LAST_NAME		BALANCE_MINUS_GIFTVALUE
1	Robert	Thornberry	c00001	145
2	Jennifer	Jones	c00012	-5
3	John	Doe	c00101	982.5
4	Andrew	Murcia	c00103	80
5	Maria	Galant	c01986	120.65

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

The collumns name aren't clear and less descriptive

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;
```

	∯ First Name	 	⊕ Balance	∯ Monthly Repayments
1	Robert	Thornberry	150	12.5
2	Jennifer	Jones	0	0
3	John	Doe	987.5	82.2916666666666666666666666666666666667
4	Andrew	Murcia	85	7.08333333333333333333333333333333333333
5	Maria	Galant	125.65	10.4708333333333333333333333333333333333

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.



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

Because it has NULL value on discount



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Section 6 Lesson 7 Exercise 1: Restricting Data Using WHERE

Limit rows using WHERE (S6L7 Objective 1)

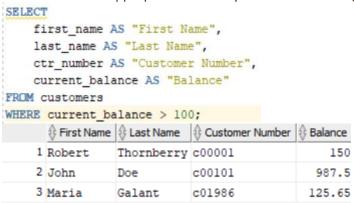
In this exercise you will refine the data that is returned in your query by adding a WHERE clause to your SELECT statement.

Part 1: Using the WHERE Clause.

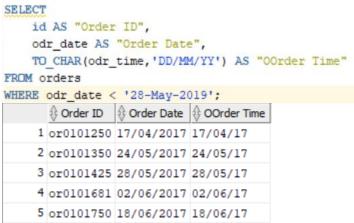
1. Using the unique customer number in the where clause display all columns for Maria Galant.



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.



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.



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.

```
id AS "Inventory ID",
cost AS "Cost",
units AS "Number Of Units"

FROM inventory_list
WHERE cost BETWEEN 3.00 AND 15.00;

$\frac{1}{2}$ Inventory ID $\frac{1}{2}$ Cost $\frac{1}{2}$ Number Of Units

1 i1010230125 7.99 250
2 i1010230126 5.24 87
```

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.

```
id AS "Inventory ID",
cost AS "Cost",
units AS "Number Of Units"
FROM inventory_list
WHERE units IN (50,100,150,200);

Inventory ID & Cost & Number Of Units
1 i1010230124 2.5 100
```

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.

```
id AS "Inventory ID",
cost AS "Cost",
units AS "Number Of Units"
FROM inventory_list
WHERE units NOT IN (50,100,150,200);
```



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.

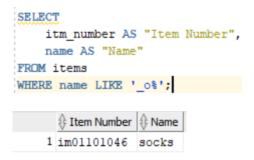
```
itm_number AS "Item Number",
name AS "Name"
FROM items
WHERE name LIKE 'g%';

Item Number Name

1 im01101044 gloves
2 im01101047 game top
```

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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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||' and does not receive a discount.' AS "Team Information"
FROM teams

WHERE discount IS NULL;

Team Information

1 The Rovers team has 8 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 '||name||' team has '||number_of_players||' receive a discount of '||discount||' percent.' AS "Team Information"
FROM teams
WHERE discount IS NOT NULL;

Team Information

1 The Rockets team has 25 receive a discount of 10 percent.

2 The Celtics team has 42 receive a discount of 20 percent.

3 The Jets team has 10 receive 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.

```
SELECT

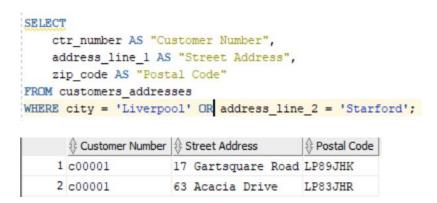
ctr_number AS "Customer Number",
address_line_1 AS "Street Address",
zip_code AS "Postal Code"

FROM customers_addresses
WHERE city = 'Liverpool' AND address_line_2 = 'Starford';
```



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.



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.



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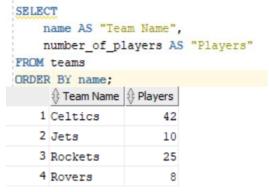
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Section 6 Lesson 8 Exercise 1: Sorting Data Using ORDER BY

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.



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



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.



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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) | WHERE ROWNUM <= 3; | Customer Number | Customer Name | 1 | Robert Thornberry | 2 | Jennifer Jones | 3 | John Doe
```

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.



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