

SQL 3

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SQL 3 — DML2 Part 1 (DFo_6-6-1-Project)

Section 6 Lesson 6 Exercise 1 : Retrieving Data Using Select

Part 1 : Retrieving all columns from a table

(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	150	sr01	t001	-
c00012	Jjones@fremail.com	Jennifer	Jones	01505214598	0	-	-	lc1015
c00101	unknown@here.com	John	Doe	03216547808	987.5	sr01	t002	-
c00103	MurciaA@globaltech.com	Andrew	Murcia	07715246890	85	-	-	lc2341
c01986	margal87@delphiview.com	Maria	Galant	01442736589	125.65	sr03	t003	-

(2) teams

`SELECT *`

`FROM teams;`

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`

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

Part 2 : Selecting Specific Columns

(1) `SELECT ctr_number, first_name, last_name, email, phone_number`
`FROM customers;`

```

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

(2) *SELECT name, number_of_players
FROM teams;*

```

1 SELECT name, number_of_players
2 FROM teams;

```

Results Explain Describe Saved SQL History

NAME	NUMBER_OF_PLAYERS
Jets	10
Rockets	25
Celtics	42
Rovers	8

(3) *SELECT name, description, category
FROM items;*

```

1 SELECT name, description, category
2 FROM 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 quality baseball bat	equipment

SQL 3 - DML2 Part 2 (DFo_6-6-2_Project)

Section 6 Lesson 6 Exercise 2 : Retrieving Data Using SELECT

Part 1 : Using Arithmetic Operators

(1) `SELECT first-name, last-name, current-balance, current-balance / 12
FROM customers;`

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

(2) SELECT first_name, last_name, ctr_number, current_balance, current_balance - 5
FROM customers;

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

Results	Explain	Describe	Saved SQL	History	
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) The current balance cannot be zero value.

Part 2 : Using Column Aliases

(1) SELECT first_name AS "First Name", last_name AS "Last Name",
current_balance AS "Balance", current_balance / 12 AS "Monthly Repayments"
FROM customers;

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

Part 3: Using Literal character Strings

(1) SELECT 'The ' || name || ' team has ' || number_of_players || ' players and receives a discount of ' || discount || ' percent.' AS "Team Information"
FROM teams;

The screenshot shows a SQL query being run in a terminal or IDE. The query is:

```
1 SELECT 'The ' || name || ' team has ' || number_of_players || ' players and receives a discount of ' || discount || ' percent.' AS "Team Information"
2 FROM teams;
```

The results are displayed in a table titled "Team Information". The data is:

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.
The Rovers team has 8 players and receives a discount of percent.

(b) It contains NULL value that is not equal to zero.

SQL 3 - DML 2 part 3 (DFo_6-7-1_Project)

Section 6 Lesson 7 Exercise 1: Restricting Data Using WHERE

Part 1: Using the WHERE clause

(1) `SELECT *`

`FROM customers`

`WHERE ctr_number = 'c01986';`

```
1 SELECT *
2 FROM customers
3 WHERE 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	-

(2) `SELECT first_name AS "First Name", last_name AS "Last Name",`
`ctr_number AS "Customer Number", current_balance AS "Balance"`
`FROM customers`
`WHERE current_balance > 100;`

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

Results Explain Describe Saved SQL History
```

First Name	Last Name	Customer Number	Balance
Robert	Thornberry	c00001	150
John	Doe	c00101	987.5
Maria	Galant	c01986	125.65

(3) `SELECT id AS "Order ID", odr_date AS "Date", TO_CHAR(odr_time,`
`'HH24:MI:SS') AS "Time"`
`FROM orders`
`WHERE odr_date < TO_DATE('28-May-2019', 'DD-MM-YYYY');`

```
1 SELECT id AS "Order ID", odr_date AS "Date", TO_CHAR(odr_time, 'HH24:MI:SS') AS "Time"
2 FROM orders
3 WHERE odr_date < TO_DATE('28-May-2019', 'DD-MM-YYYY');

Results Explain Describe Saved SQL History
```

Order ID	Date	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

Part 2 : Range Conditions : BETWEEN Operator

(1) SELECT id AS "Inventory ID", cost AS "Costs", units AS "Number of Units"
FROM inventory_list
WHERE cost BETWEEN 3.00 AND 15.00;

```
1 SELECT id AS "INVENTORY ID", cost AS "Costs", units AS "Number of Units"  
2 FROM inventory_list  
3 WHERE cost BETWEEN 3.00 AND 15.00;
```

Results Explain Describe Saved SQL History

INVENTORY ID	Costs	Number of Units
il010230125	7.99	250
il010230126	5.24	87

Part 3 : Memberships Conditions : IN Operator

(1) SELECT id AS "Inventory ID", cost AS "Costs", units AS "Number of Units"
FROM inventory_list
WHERE units IN (50, 100, 150, 200);

```
1 SELECT id AS "INVENTORY ID", cost AS "Costs", units AS "Number of Units"  
2 FROM inventory_list  
3 WHERE units IN (50,100,150,200);
```

Results Explain Describe Saved SQL History

INVENTORY ID	Costs	Number of Units
il010230124	2.5	100

Part 4 : Membership Conditions : NOT IN Operator

(1) SELECT id AS "Inventory ID", cost AS "Costs", units AS "Number of Units"
FROM inventory_list
WHERE units NOT IN (50, 100, 150, 200);

```
1 SELECT id AS "INVENTORY ID", cost AS "Costs", units AS "Number of Units"  
2 FROM inventory_list  
3 WHERE units NOT IN (50,100,150,200);
```

Results Explain Describe Saved SQL History

INVENTORY ID	Costs	Number of Units
il010230125	7.99	250
il010230126	5.24	87
il010230127	18.95	65
il010230128	97.46	8

Part 5 : Pattern Matching : LIKE Operator

(1) SELECT item_number AS "Item Number", name AS "Item Name"
FROM items
WHERE name LIKE 'g%';

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

Results Explain Describe Saved SQL History

Item Number	Item Name
im01101044	gloves
im01101047	game top

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

(1) `SELECT item_number AS "Item Number", name AS "Item Name"
FROM items
WHERE name LIKE '_o %';`

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

Results Explain Describe Saved SQL History

Item Number	Item Name
im01101046	socks

SQL 3 - DML 2 Part 4 (DFo_6_7_2_Project)

Section 6 Lesson 7 Exercise 2 : Restricting Data Using WHERE

Part 1 : Using NULL conditions

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

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

Results Explain Describe Saved SQL History

Team Information

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

(2) `SELECT 'The ' || name || ' team has ' || number_of_players || ' players and receive a discount of ' || discount || ' percent.' AS "Team Information"
FROM teams
WHERE discount is NOT NULL;`

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

Results Explain Describe Saved SQL History

Team Information

The Jets team has 10 players and receive a discount of 5 percent.

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

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

Part 2 : Logical Operators : AND

(1) `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';`

```
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';
```

Results Explain Describe Saved SQL History

Customer Number	Street Address	Postal Code
c00001	17 Gartsquare Road	LP89JHK

Part 3 : Logical Operators : OR

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

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

Results Explain Describe Saved SQL History
```

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

Part 4 : Logical Operators : NOT Equal to

(1) 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');

```
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');

Results Explain Describe Saved SQL History
```

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

SOL3 - DML2 Part 5 (DFo_6-8-1-Project)

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

(1) SELECT name AS "Team Name", number_of_players AS "Number of players"
FROM teams
ORDER BY name;

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

Results Explain Describe Saved SQL History

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

(2) SELECT name AS "Team Name", number_of_players AS "Number of players"
FROM teams
ORDER BY number_of_players DESC;

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

Results Explain Describe Saved SQL History

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

(3) SELECT name AS "Team Name", number_of_players AS "Players"
FROM teams
ORDER BY "Team Name" DESC;

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

Results Explain Describe Saved SQL History

Team Name	Players
Rovers	8
Rockets	25
Jets	10
Celtics	42

SQL 3 - DML2 Part 6 (DFo_6-8-2- Project)

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

Part 1 : Top-N-Analysis

(1) SELECT ROWNUM AS "Order of Member" , first_name || ' ' || last_name
 AS "Customer Name"
 FROM
 (SELECT first_name, last_name
 FROM customers
 ORDER BY ctr_number)
 WHERE ROWNUM <=3 ;

```

1 SELECT ROWNUM AS "Order of Member", first_name || ' ' || last_name AS "Customer Name"
2 FROM
3   (SELECT first_name, last_name
4    FROM customers
5    ORDER BY ctr_number)
6 WHERE ROWNUM <=3;
```

Results		Explain	Describe	Saved SQL	History
		Order of Member			
		Customer Name			
1				Robert Thornberry	
2				Jennifer Jones	
3				John Doe	

Part 2 : Using a Substitution Variable

(1) SELECT first_name || ' ' || last_name AS "Sales Representatives"
 FROM sales_representative
 WHERE commission_rate = :commission_rate;
 ORDER BY last_name ;

```

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

Bind Variable	Value
:COMMISSION_RATE	

```

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

Results Explain Describe Saved SQL History

Sales Representatives

Barry Speed

Victoria Wright