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Title: Lab Exercise 3 (SQL 3 : DML 2)

Section 6 Lesson 6 Exercise 1

Part 1

1. SELECT * FROM customers;

2. SELECT * FROM teams;

3. SELECT * FROM items;

Part 2

1. SELECT ctr_number, first_name, last_name, email, phone_number
   FROM customers;

2. SELECT name, number_of_players
   FROM teams;

3. SELECT name, description, category
   FROM items;

Section 6 Lesson 6 Exercise 2

Part 1

1. SELECT first_name, last_name, current_balance, (current_balance /12) AS
   monthly_payment
   FROM customers;

2. SELECT first_name, last_name, ctr_number, current_balance, (current_balance - 5.0
   AS new_current_balance_minus_gift
   FROM customers;

3. It is hard to check whether the data has been updated or not.

Part 2

1. SELECT first-name AS First-Name, last-name AS Last-Name, current-balance
   /12 AS Monthly-Repayments
   FROM customers;

Part 3

1. SELECT 'The' || name || 'team has' || number-of-players || 'player and receives
   a discount of' || discount || 'percent' AS 'Team Information'
   FROM teams;

2. Because the discount for that team is null.

Section 6 Lesson 7 Exercise 1

Part 1

1. SELECT * FROM customers
   WHERE ctr-number = 'C01986'

2. SELECT first-name AS "First Name", last-name AS "Last Name", ctr-number AS
   "Customer Number"
   FROM customers
   WHERE current-balance >100;

3. SELECT id, odr-date, odr-time
   FROM orders
   WHERE odr-date < '28-May-2019';

Part 2

1. SELECT *
   FROM inventory-list
   WHERE cost BETWEEN 3.00 AND 15.00;

Part 3

1. SELECT *
   FROM inventory-list
   WHERE units IN (50,100,150,200);

Part 5

1. SELECT itm-number "Item Number", name "Item Name"
FROM items
WHERE name LIKE 'g%';

Part 4

1. SELECT *
FROM inventory-list
WHERE units NOT IN (50,100,150,200);

Part 6

1. SELECT itm-number "Item Number", name "Item Name"
From items
WHERE name LIKE '%o%';

Section 6 Lesson 7 Exercise 2

Part 1

1. SELECT 'The' || name || 'team has' || number-of-players || 'player and does not
receive a discount.' "Team Information"
FROM teams
WHERE discount IS NULL;

2. SELECT 'The' || name || 'team has' || number-of players || 'player and receives a
discount' || discount || 'percent.' "Team information"
FROM teams
WHERE discount IS NOT NULL;

Part 2

1. 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';

Part 3

1.
```sql
SELECT ctr_number "Customer Number", address_line_1 "Street Address",
    zip_code "Postal code"
FROM customer_addresses
WHERE city = 'Liverpool' OR address_line_2 = 'Starford';
```

Part 4

1.
```sql
SELECT ctr_number "Customer Number", address_line_1 "Street Address",
    zip_code "Postal Code"
FROM customer_addresses
WHERE city <> 'Liverpool';
```

Section 6 Lesson 8 Exercise 1

1.
```sql
SELECT name "Team Name", number_of_players "Number of Players"
FROM teams
ORDER BY name;
```

2.
```sql
SELECT name "Team Name", number_of_players "Number Of Players"
FROM teams
ORDER BY number_of_players DESC;
```

3.
```sql
SELECT name "Team Name", number_of_players "Number Of Players"
FROM teams
ORDER BY name DESC;
```

Section 6 Lesson 8 Exercise 2

Part 1

1.
```sql
SELECT ROWNUM "Top 3 customers", first_name||' '||last_name "Customer Name"
FROM (SELECT first_name, last_name
        FROM customers
        ORDER BY ctr_number)
WHERE ROWNUM <= 3;
```

Part 2

```sql
SELECT first_name "First Name", last_name "Last Name"
FROM sales_representatives
WHERE commission_rate = commission_rate
ORDER BY last_name;
```

Section 6 Lesson 6 Exercise 1

Part 1 : Retrieving all columns from a table.

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

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	Jjones@freemail.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	-

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5 rows selected.

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

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

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3 rows selected.

```
1   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 quaity basball bat	equipment	-	-	il010230128

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5 rows selected.

Part 2 : Selecting Specific Columns

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

CTR_NUMBER	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER
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

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5 rows selected.

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

NAME	NUMBER_OF_PLAYERS
Rockets	25
Celtics	42
Rovers	8

Download CSV

3 rows selected.

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

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 basball bat	equipment

Download CSV

5 rows selected.

Section 6 Lesson 6 Exercise 2

Part 1 : Using Arithmetic Operators

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

FIRST_NAME	LAST_NAME	CURRENT_BALANCE	MONTHLY_PAYMENT
Robert	Thornberry	150	12.5
Jennifer	Jones	0	0
John	Doe	987.5	82.2916666666666666666666666666666666667
Andrew	Murcia	85	7.0833333333333333333333333333333333333
Maria	Galant	125.65	10.4708333333333333333333333333333333333

Download CSV

5 rows selected.

```
1  SELECT first_name, last_name, ctr_number, current_balance, (current_balance - 5.00) AS new_current_balance_minus_gift
2    FROM customers;
```

FIRST_NAME	LAST_NAME	CTR_NUMBER	CURRENT_BALANCE	NEW_CURRENT_BALANCE_MINUS_GIFT
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

Download CSV

5 rows selected.

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
2    FROM customers;
```

FIRST_NAME	LAST_NAME	BALANCE	MONTHLY_REPAYMENTS
Robert	Thornberry	150	12.5
Jennifer	Jones	0	0
John	Doe	987.5	82.2916666666666666666666666666666666667
Andrew	Murcia	85	7.0833333333333333333333333333333333333
Maria	Galant	125.65	10.4708333333333333333333333333333333333

Download CSV

5 rows selected.

Part 3 : Using Literal Character Strings

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

Team Information
TheRocketsteam has25player and receives a discount of10percent
TheCelticsteam has42player and receives a discount of20percent
TheRoversteam has8player and receives a discount ofpercent

Download CSV

3 rows selected.

Section 6 Lesson 7 Exercise 1

Part 1 : Using the WHERE Clause

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

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	–

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

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

Download CSV

3 rows selected.

```
1 v  SELECT id, odr_date , odr_time
2    FROM orders
3    WHERE odr_date < '28-May-2019';
```

ID	ODR_DATE	ODR_TIME
or0101250	17-APR-17	17-APR-17
or0101350	24-MAY-17	24-MAY-17
or0101425	28-MAY-17	28-MAY-17
or0101681	02-JUN-17	02-JUN-17
or0101750	18-JUN-17	18-JUN-17

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5 rows selected.

Part 2 : Range Conditions : BETWEEN Operator

```sql
1  SELECT *
2  FROM inventory_list
3  WHERE cost BETWEEN 3.00 AND 15.00;
```

ID	COST	UNITS
il010230125	7.99	250
il010230126	5.24	87

Download CSV

2 rows selected.

Part 3 : Membership Conditions : IN Operator

```sql
1  SELECT *
2  FROM inventory_list
3  WHERE units IN (50, 100, 150, 200);
```

ID	COST	UNITS
il010230124	2.5	100

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Part 4 : Membership Conditions : NOT IN Operator

```
1 v  SELECT *
2    FROM inventory_list
3    WHERE units NOT IN (50, 100, 150, 200);
```

ID	COST	UNITS
il010230125	7.99	250
il010230126	5.24	87
il010230127	18.95	65
il010230128	97.46	8

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4 rows selected.

Part 5 : Pattern Matching : LIKE Operator

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

Item Number	Item Name
im01101044	gloves
im01101047	game top

Download CSV

2 rows selected.

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

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

Item Number	Item Name
im01101044	gloves
im01101046	socks
im01101047	game top

Download CSV

3 rows selected.

Section 6 Lesson 7 Exercise 2

Part 1 : Using the NULL Conditions

```sql
1  SELECT 'The'||name||'team has'||number_of_players||
2     'player and does not receive a discount.' "Team Information"
3  FROM teams
4  WHERE discount IS NULL;
```

Team Information

TheRoversteam has8player and does not receive a discount.

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

Team Information
TheRocketsteam has25player and receives a discount10percent.
TheCelticsteam has42player and receives a discount20percent.

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2 rows selected.

Part 2 : Logical Operators : AND

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

Customer Number	Street Address	Postal Code
c00001	17 Gartsquare Road	LP89JHK

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Part 3 : Logical Operators : OR

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

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

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3 rows selected.

Part 4 : Logical Operators : NOT Equal To

```
1 v  SELECT ctr_number "Customer Number", address_line_1 "Street Address", zip_code "Postal Code"
2    FROM customers_addresses
3    WHERE city <> 'Liverpool';
```

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

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2 rows selected.

Section 6 Lesson 8 Exercise 1

Sorting Data Using ORDER BY

```
1 v  SELECT name "Team Name", number_of_players "Number Of Players"
2    FROM teams
3    ORDER BY name;
```

Team Name	Number Of Players
Celtics	42
Rockets	25
Rovers	8

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3 rows selected.

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

Team Name	Number Of Players
Celtics	42
Rockets	25
Rovers	8

Download CSV

3 rows selected.

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

Team Name	Number Of Players
Rovers	8
Rockets	25
Celtics	42

Download CSV

3 rows selected.

Section 6 Lesson 8 Exercise 2

Part 1 : TOP-N-ANALYSIS

```
1 v SELECT ROWNUM "Top 3 Customers", first_name||''||last_name "Customer Name"
2   FROM (SELECT first_name, last_name
3         FROM customers
4         ORDER BY ctr_number)
5   WHERE ROWNUM <=3;
```

Top 3 Customers	Customer Name
1	RobertThornberry
2	JenniferJones
3	JohnDoe

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3 rows selected.

Part 2 : Using A Substitution Variable

```
1 v SELECT first_name "First Name", last_name "Last Name"
2   FROM sales_representatives
3   WHERE commission_rate = commission_rate
4   ORDER BY last_name;
```

First Name	Last Name
Charles	Raymond
Barry	Speed
Victoria	Wright

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3 rows selected.