

Lab 3

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Course Name : Database

Course Code : SECD2523

Section : 06

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Lesson 6 Exercise 1: Retrieving Data Using SELECT

Part 1

1) `SELECT *`
`FROM customers;`

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@femail.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	-	
c02001	brianrog@hootech.com	Brian	Rogers	01654564898	50	-	-	lc4587	

2) `SELECT *`
`FROM teams;`

ID	NAME	NUMBER_OF_PLAYERS	DISCOUNT
t004	Jets	10	5
t001	Rockets	25	10
t002	Celtics	42	20
t005	Rovers	8	-



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3) SELECT *
FROM items;

Results						
ITEM_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

1) SELECT ctr_number, first_name, last_name, phone_number
FROM customers;

Results			
CTR_NUMBER	FIRST_NAME	LAST_NAME	PHONE_NUMBER
c00001	Robert	Thornberry	01234567898
c00012	Jennifer	Jones	01505214598
c00101	John	Doe	03216547808
c00103	Andrew	Murcia	07715246890
c01986	Maria	Galant	01442736589
c02001	Brian	Rogers	01654564898

2) SELECT name, number_of_players
FROM teams;

Results	
NAME	NUMBER_OF_PLAYERS
Jets	10
Rockets	25
Celtics	42
Rovers	8

3) SELECT name, description, category
FROM items;

Results		
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



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Lesson 6 Exercise 2: Retrieving Data Using SELECT

Part 1

- 1) SELECT first_name, last_name, current_balance, current_balance / 12
FROM customers;

```
99 SELECT first_name, last_name, current_balance, current_balance/12  
100 FROM customers;  
101
```

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

```
108 FROM customers;
109
110 SELECT first_name, last_name, current_balance, current_balance/-5
111 FROM customers;
112
113
```

Results	Explain	Describe	Saved SQL	History
FIRST_NAME	LAST_NAME	CURRENT_BALANCE	CURRENT_BALANCE/-5	
Robert	Thornberry	150	-30	
Jennifer	Jones	0	0	
John	Doe	987.5	-197.5	
Andrew	Murcia	85	-17	
Maria	Galant	125.65	-25.13	
Brian	Rogers	50	-10	

- 3) There will occur new balance with negative value if the current balance is less than 5.

Part 2

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

```
103 FROM customers;
104
105 SELECT first_name AS "First Name", last_name AS "Last Name", current_balance AS "Balance", current_balance/12 AS "Monthly Repayment"
106 FROM customers;
107
108
```



### Part 3

- 1) SELECT 'The' || name || ' team has ' || number\_of\_players || ' players and received a discount of ' || discount || ' percent.' AS "Team Information"  
FROM teams;

```
105 SELECT 'The' || name || ' team has ' || number_of_players || ' players and received a discount of ' || discount || ' percent.' AS "Team Information"
106 FROM teams;
```

Results Explain Describe Saved SQL History

#### Team Information

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

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

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

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

- 2) Because there is a NULL value in the discount attribute of last team. (Rovers team)

## Lesson 7 Exercise 1: Restricting Data Using WHERE

### Part 1

- 1) SELECT \*  
FROM customers  
WHERE ctr\_number = 'c01986';

```
106 FROM teams;
107 SELECT *
108 FROM customers
109 WHERE ctr_number = 'c01986';
110
```

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", current\_balance AS "Balance"  
FROM customers  
WHERE current\_balance > 100;

```
110 SELECT first_name AS "First Name", last_name AS "Last Name", current_balance AS "Balance"
111 FROM customers
112 WHERE current_balance > 100;
```

Results Explain Describe Saved SQL History

| First Name | Last Name  | Balance |
|------------|------------|---------|
| Robert     | Thornberry | 150     |
| John       | Doe        | 987.5   |
| Maria      | Galant     | 125.65  |



3) SELECT id AS "Order ID", odr\_date AS "Order Date", odr\_time AS "Order Time"  
 FROM orders  
 WHERE TO\_DATE(odr\_date, 'MM/DD/YYYY') < TO\_DATE('05/28/2019', 'MM/DD/YYYY');

```
113 SELECT id AS "Order ID", odr_date AS "Order Date", odr_time AS "Order Time"
114 FROM orders
115 WHERE TO_DATE(odr_date, 'MM/DD/YYYY') < TO_DATE('05/28/2019', 'MM/DD/YYYY');
```

| Results   | Explain | Describe | Saved SQL  | History    |
|-----------|---------|----------|------------|------------|
|           |         | Order ID | Order Date | Order Time |
| or0101250 |         |          | 04/17/2017 | 04/17/2017 |
| or0101350 |         |          | 05/24/2017 | 05/24/2017 |
| or0101425 |         |          | 05/28/2017 | 05/28/2017 |
| or0101681 |         |          | 06/02/2017 | 06/02/2017 |
| or0101750 |         |          | 06/18/2017 | 06/18/2017 |

### Part 2

1) SELECT id AS "Inventory ID", cost AS "Trade Cost", units AS "Number of Units"  
 FROM inventory\_list  
 WHERE cost BETWEEN 3 AND 15;

```
116 SELECT id AS "Inventory ID", cost AS "Trade Cost", units AS "Number of Units"
117 FROM inventory_list
118 WHERE cost BETWEEN 3 AND 15;
```

| Results     | Explain | Describe     | Saved SQL  | History         |
|-------------|---------|--------------|------------|-----------------|
|             |         | Inventory ID | Trade Cost | Number of Units |
| il010230125 |         |              | 7.99       | 250             |
| il010230126 |         |              | 5.24       | 87              |

### Part 3

1) SELECT id AS "Inventory ID", cost AS "Trade Cost", units AS "Number of Units"  
 FROM inventory\_list  
 WHERE units IN (50, 100, 150, 200)

```
122 FROM inventory_list
123 WHERE units IN(50,100,150,200);
```

| Results     | Explain | Describe     | Saved SQL  | History         |
|-------------|---------|--------------|------------|-----------------|
|             |         | Inventory ID | Trade Cost | Number of Units |
| il010230124 |         |              | 2.5        | 100             |



## Part 4

- 1) SELECT id AS "Inventory ID", cost AS "Trade Cost", units AS "Number of Units"  
FROM inventory\_list  
WHERE units NOT IN (50,100,150,200);

```
124 SELECT id AS "Inventory ID", cost AS "Trade Cost", units AS "Number of Units"
125 FROM inventory_list
126 WHERE units NOT IN(50,100,150,200);
```

Results Explain Describe Saved SQL History

| Inventory ID | Trade Cost | Number of Units |
|--------------|------------|-----------------|
| il010230125  | 7.99       | 250             |
| il010230126  | 5.24       | 87              |
| il010230127  | 18.95      | 65              |
| il010230128  | 97.46      | 8               |

## Part 5

- 1) SELECT item\_number AS "Item Number", name AS "Item Name"  
FROM items  
WHERE name LIKE 'g%';

```
127 SELECT item_number AS "Item Number", name AS "Item Name"
128 FROM items
129 WHERE name LIKE 'g%';
```

Results Explain Describe Saved SQL History

| Item Number | Item Name |
|-------------|-----------|
| im01101044  | gloves    |
| im01101047  | game top  |

## Part 6

- 1) SELECT item\_number AS "Item Number", name AS "Item Name"  
FROM items  
WHERE name LIKE '%o o %';

```
130 SELECT item_number AS "Item Number", name AS "Item Name"
131 FROM items
132 WHERE name LIKE '%o o %';
133
```

Results Explain Describe Saved SQL History

| Item Number | Item Name |
|-------------|-----------|
| im01101044  | gloves    |
| im01101046  | socks     |
| im01101047  | game top  |



## Lesson 7 Exercise 2: Restricting Data Using WHERE

### Part 1

- 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;

```
133 SELECT 'The ' || name || ' team has ' || number_of_players || ' players and does not receive a discount.' AS "Team Information"
134 FROM teams
135 WHERE discount IS NULL;
136
```

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 || ' and received a discount of ' ||  
 discount || ' percent.' AS "Team Information"  
 FROM teams  
 WHERE discount = 10;

```
136 SELECT 'The ' || name || ' team has ' || number_of_players || ' players and received a discount of ' || discount || ' percent.' AS "Team Information"
137 FROM teams
138 WHERE discount = 10;
139
```

Results Explain Describe Saved SQL History

Team Information

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

### Part 2

- 1) SELECT ctr\_number AS "Customer Number", address\_line\_1 AS "Street Address", zip\_code AS "Postal Code"  
 FROM customers\_addresses  
 WHERE address\_line\_2 = 'Starford'  
 AND city = 'Liverpool';

```
139 SELECT ctr_number AS "Customer Number", address_line_1 AS "Street Address", zip_code AS "Postal Code"
140 FROM customers_addresses
141 WHERE address_line_2 = 'Starford'
142 AND city = 'Liverpool';
143
```

Results Explain Describe Saved SQL History

| Customer Number | Street Address     | Postal Code |
|-----------------|--------------------|-------------|
| c00001          | 17 Gartsquare Road | LP89JHK     |



**Part 3**

1) SELECT ctr\_number AS "Customer Number", address\_line\_1 AS "Street Address", zip\_code AS "Postal Code"  
 FROM customer\_addresses  
 WHERE address\_line\_2 = 'starford'  
 OR city = 'Liverpool';

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

| Results         | Explain            | Describe    | Saved SQL | History |
|-----------------|--------------------|-------------|-----------|---------|
| Customer Number | Street Address     | Postal Code |           |         |
| c00001          | 17 Gartsquare Road | LP89JHK     |           |         |
| c00001          | 63 Acacia Drive    | LP83JHR     |           |         |

**Part 4**

1) SELECT ctr\_number AS "Customer Number", address\_line\_1 AS "Street Address", zip\_code AS "Postal Code"  
 FROM customer\_addresses  
 WHERE city NOT IN ('Liverpool');

```
147 SELECT ctr_number AS "Customer Number", address_line_1 AS "Street Address", zip_code AS "Postal Code"
148 FROM customers_addresses
149 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     |           |         |

**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;

```
150 SELECT name AS "Team Name", number_of_players AS "Number of Players"
151 FROM teams
152 ORDER BY name;
```

| 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;

```
153 SELECT name AS "Team Name", number_of_players AS "Number of Players"
154 FROM teams
155 ORDER BY number_of_players DESC;
156
```

| 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 name DESC;

```
156 SELECT name AS "Team Name", number_of_players AS "Number of Players"
157 FROM teams
158 ORDER BY name DESC;
```

| Team Name | Number of Players |
|-----------|-------------------|
| Rovers    | 8                 |
| Rockets   | 25                |
| Jets      | 10                |
| Celtics   | 42                |

### Lesson 8 Exercise 2: Sorting Data Using ORDER BY

#### Part 1

1) SELECT ROWNUM AS "Customer Order", first\_name || ' ' || last\_name AS "Customer Name"  
 FROM  
 (SELECT first\_name, last\_name  
 FROM customers  
 ORDER BY ctr\_number)  
 WHERE ROWNUM <=3;

```
159 SELECT ROWNUM AS "Customer Order", first_name || ' ' || last_name AS "Customer Name"
160 FROM
161 (SELECT first_name, last_name
162 FROM customers
163 ORDER By ctr_number)
164 WHERE ROWNUM <=3;
```

| Customer Order | Customer Name     |
|----------------|-------------------|
| 1              | Robert Thornberry |
| 2              | Jennifer Jones    |
| 3              | John Doe          |



## Part 2

1) SELECT first\_name || ' ' || last\_name AS "Sales Representatives"  
FROM sales\_representatives  
WHERE commission\_rate = :commission\_rate  
ORDER BY last\_name;

Submit

| Bind Variable    | Value |
|------------------|-------|
| :COMMISSION_RATE | 5     |

```
165 SELECT first_name || ' ' || last_name AS "Sales Representatives"
166 FROM sales_representatives
167 WHERE commission_rate = :commission_rate
168 ORDER BY last_name;
```

Results Explain Describe Saved SQL History

| Sales Representatives |
|-----------------------|
| Barry Speed           |
| Victoria Wright       |

