FACULTY OF COMPUTING
UTM Johor Bahru

SECD2523
SECTION 10

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PROJECT TITLE:
SQL LAB3
(DML3)
PART1

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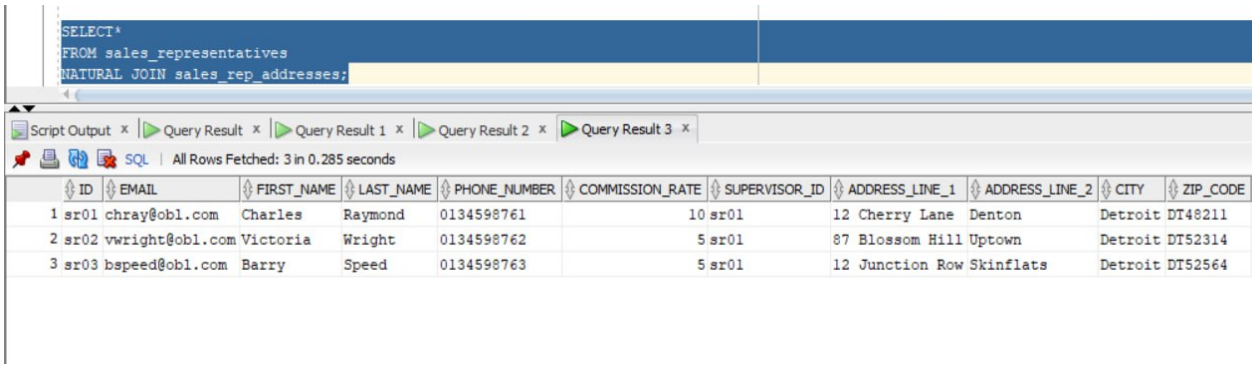
Part 1: Creating Natural Joins.

1. Display all of the information about sales representatives and their addresses using a natural join.

```
SELECT*
FROM sales_representatives
NATURAL JOIN sales_rep_addresses;
```



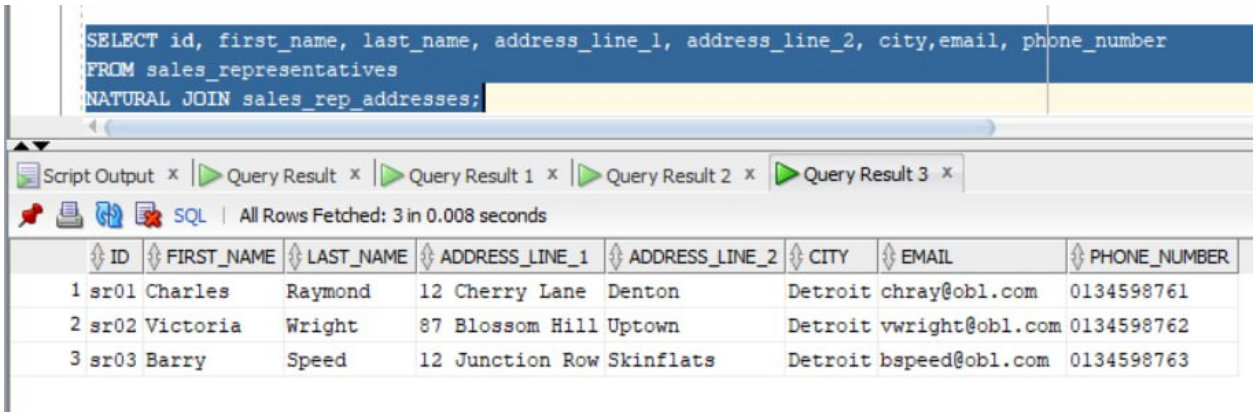
Script Output | Query Result | Query Result 1 | Query Result 2 | Query Result 3

All Rows Fetched: 3 in 0.285 seconds

	ID	EMAIL	FIRST_NAME	LAST_NAME	PHONE_NUMBER	COMMISSION_RATE	SUPERVISOR_ID	ADDRESS_LINE_1	ADDRESS_LINE_2	CITY	ZIP_CODE
1	sr01	chray@obl.com	Charles	Raymond	0134598761	10	sr01	12 Cherry Lane	Denton	Detroit	DT48211
2	sr02	vwright@obl.com	Victoria	Wright	0134598762	5	sr01	87 Blossom Hill	Uptown	Detroit	DT52314
3	sr03	bspeed@obl.com	Barry	Speed	0134598763	5	sr01	12 Junction Row	Skinflats	Detroit	DT52564

2. Adapt the query from the previous question to only show the id, first name, last name, address line 1, address line 2, city, email and phone_number for the sales representatives.

```
SELECT id, first_name, last_name, address_line_1, address_line_2, city,email, phone_number
FROM sales_representatives
NATURAL JOIN sales_rep_addresses;
```



Script Output | Query Result | Query Result 1 | Query Result 2 | Query Result 3

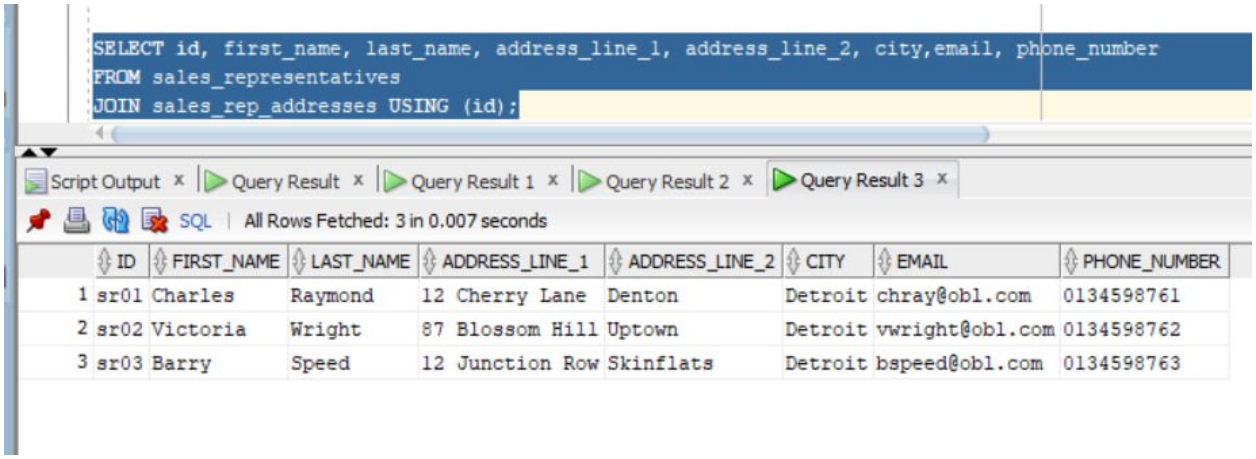
All Rows Fetched: 3 in 0.008 seconds

	ID	FIRST_NAME	LAST_NAME	ADDRESS_LINE_1	ADDRESS_LINE_2	CITY	EMAIL	PHONE_NUMBER
1	sr01	Charles	Raymond	12 Cherry Lane	Denton	Detroit	chray@obl.com	0134598761
2	sr02	Victoria	Wright	87 Blossom Hill	Uptown	Detroit	vwright@obl.com	0134598762
3	sr03	Barry	Speed	12 Junction Row	Skinflats	Detroit	bspeed@obl.com	0134598763

Part 2: Creating Joins with the USING Clause

1. Adapt the previous query answer to use the USING clause instead of a natural join.

```
SELECT id, first_name, last_name, address_line_1, address_line_2, city,email,
phone_number
FROM sales_representatives
JOIN sales_rep_addresses USING (id);
```



```
SELECT id, first_name, last_name, address_line_1, address_line_2, city,email, phone_number
FROM sales_representatives
JOIN sales_rep_addresses USING (id);
```

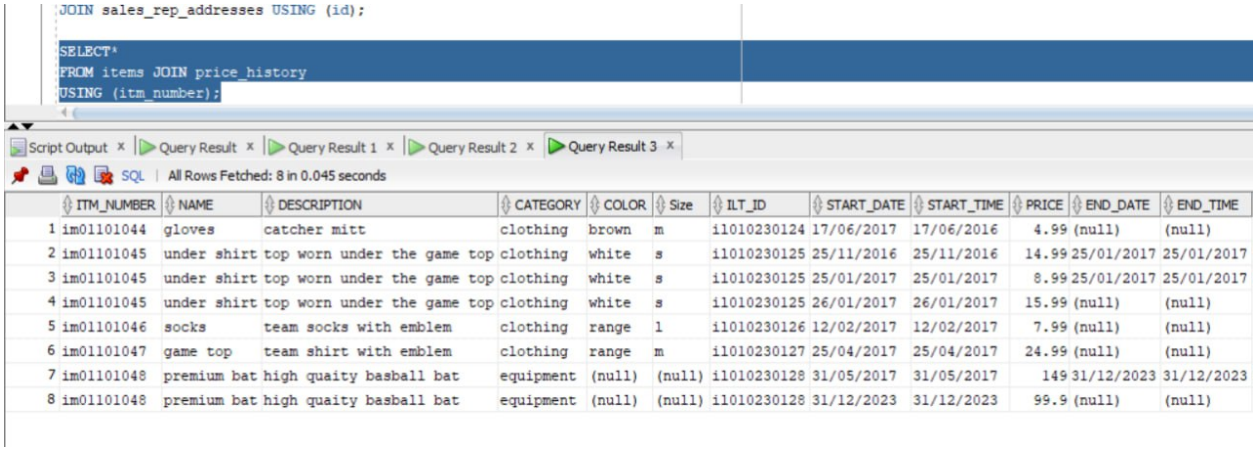
Script Output | Query Result | Query Result 1 | Query Result 2 | Query Result 3

SQL | All Rows Fetched: 3 in 0.007 seconds

	ID	FIRST_NAME	LAST_NAME	ADDRESS_LINE_1	ADDRESS_LINE_2	CITY	EMAIL	PHONE_NUMBER
1	sr01	Charles	Raymond	12 Cherry Lane	Denton	Detroit	chray@obl.com	0134598761
2	sr02	Victoria	Wright	87 Blossom Hill	Uptown	Detroit	vwright@obl.com	0134598762
3	sr03	Barry	Speed	12 Junction Row	Skinflats	Detroit	bspeed@obl.com	0134598763

2. Display all of the information about items and their price history by joining the items and price_history tables.

```
SELECT*
FROM items JOIN price_history
USING (itm_number);
```



```
JOIN sales_rep_addresses USING (id);

SELECT*
FROM items JOIN price_history
USING (itm_number);
```

Script Output | Query Result | Query Result 1 | Query Result 2 | Query Result 3

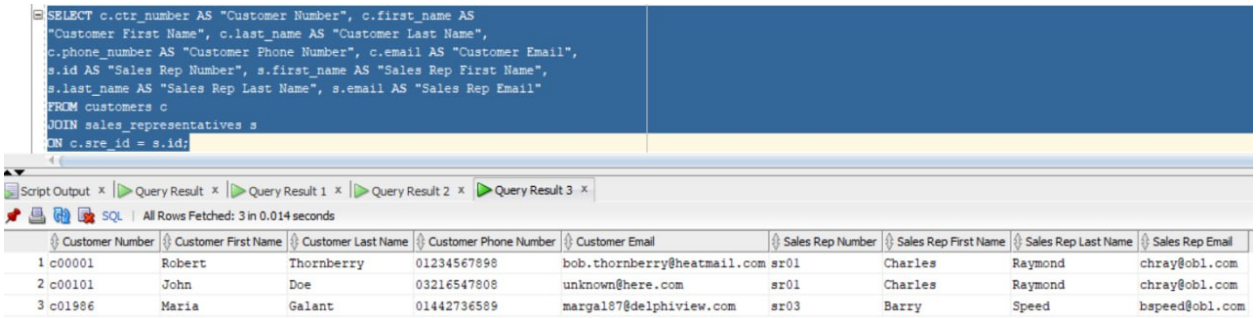
SQL | All Rows Fetched: 8 in 0.045 seconds

	ITM_NUMBER	NAME	DESCRIPTION	CATEGORY	COLOR	Size	ILT_ID	START_DATE	START_TIME	PRICE	END_DATE	END_TIME
1	im01101044	gloves	catcher mitt	clothing	brown	m	il1010230124	17/06/2017	17/06/2016	4.99	(null)	(null)
2	im01101045	under shirt	top worn under the game top	clothing	white	s	il1010230125	25/11/2016	25/11/2016	14.99	25/01/2017	25/01/2017
3	im01101045	under shirt	top worn under the game top	clothing	white	s	il1010230125	25/01/2017	25/01/2017	8.99	25/01/2017	25/01/2017
4	im01101045	under shirt	top worn under the game top	clothing	white	s	il1010230125	26/01/2017	26/01/2017	15.99	(null)	(null)
5	im01101046	socks	team socks with emblem	clothing	range	l	il1010230126	12/02/2017	12/02/2017	7.99	(null)	(null)
6	im01101047	game top	team shirt with emblem	clothing	range	m	il1010230127	25/04/2017	25/04/2017	24.99	(null)	(null)
7	im01101048	premium bat	high quaity basball bat	equipment	(null)	(null)	il1010230128	31/05/2017	31/05/2017	149	31/12/2023	31/12/2023
8	im01101048	premium bat	high quaity basball bat	equipment	(null)	(null)	il1010230128	31/12/2023	31/12/2023	99.9	(null)	(null)

Part 3: Creating Joins with the ON Clause

1. Use an ON clause to join the customer and sales representative table so that you display the customer number, customer fist name, customer last name, customer phone number, customer email, sales representative id, sales representative first name, sales representative last name and sales representative email. You will need to use a table alias in your answer as both tables have columns with the same name.

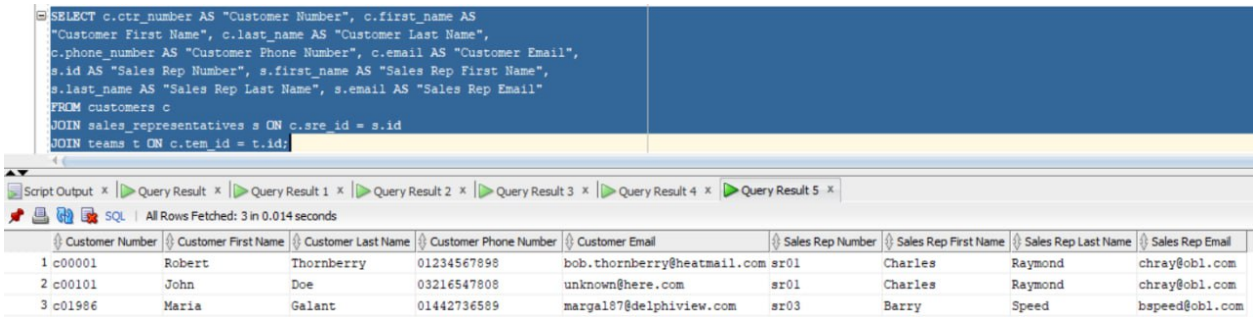
```
SELECT c.ctr_number AS "Customer Number", c.first_name AS
"Customer First Name", c.last_name AS "Customer Last Name",
c.phone_number AS "Customer Phone Number", c.email AS "Customer Email",
s.id AS "Sales Rep Number", s.first_name AS "Sales Rep First Name",
s.last_name AS "Sales Rep Last Name", s.email AS "Sales Rep Email"
FROM customers c
JOIN sales_representatives s ON c.sre_id = s.id;
```



Part 4- Creating Three-Way Joins with the ON Clause

1. Using the answer to Task 3 add a join that will allow the team name that the customer represents to be included in the results.

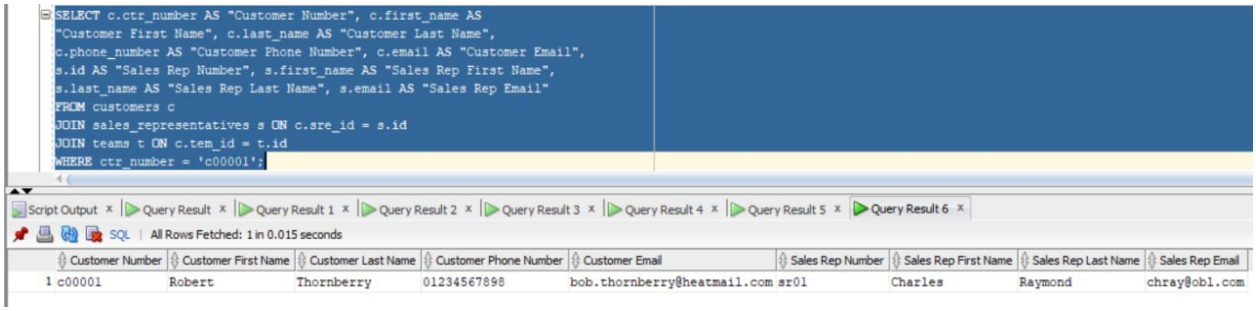
```
SELECT c.ctr_number AS "Customer Number", c.first_name AS
"Customer First Name", c.last_name AS "Customer Last Name",
c.phone_number AS "Customer Phone Number", c.email AS "Customer Email",
s.id AS "Sales Rep Number", s.first_name AS "Sales Rep First Name",
s.last_name AS "Sales Rep Last Name", s.email AS "Sales Rep Email"
FROM customers c
JOIN sales_representatives s ON c.sre_id = s.id
JOIN teams t ON c.tem_id = t.id;
```



Part 5: Applying Additional Conditions to a Join

1. Using the answer to Task 4 add an additional condition to only show the results for the customer that has the number - c00001.

```
SELECT c.ctr_number AS "Customer Number", c.first_name AS
"Customer First Name", c.last_name AS "Customer Last Name",
c.phone_number AS "Customer Phone Number", c.email AS "Customer Email",
s.id AS "Sales Rep Number", s.first_name AS "Sales Rep First Name",
s.last_name AS "Sales Rep Last Name", s.email AS "Sales Rep Email"
FROM customers c
JOIN sales_representatives s ON c.sre_id = s.id
JOIN teams t ON c.tem_id = t.id
WHERE ctr_number = 'c00001';
```



Part 6: Retrieving Records with Nonequijoins

1. Write a query that will display name and cost of the item with the number im01101045 on the 12th of December 2016. The output of the query should look like this: The cost of the under shirt on this day was 14.99

```
SELECT 'The cost of the '  i.name  ' on this day was ' || y.price AS "Output"
FROM items i
JOIN price_history y ON i.itm_number = y.itm_number
WHERE i.itm_number = 'im01101045'
AND TO_DATE('12-DEC-2016', 'DD-MON-YYYY') BETWEEN y.start_date
AND y.end_date;
```

```
SELECT 'The cost of the ' || i.name || ' on this day was ' || y.price AS "Output"
FROM items i
JOIN price_history y ON i.itm_number = y.itm_number
WHERE i.itm_number = 'im01101045'
AND TO_DATE('12-DEC-2016', 'DD-MON-YYYY') BETWEEN y.start_date AND y.end_date;
```

Script Output x | Query Result x | Query Result 1 x | Query Result 2 x | Query Result 3 x | Query Re

SQL | All Rows Fetched: 1 in 0.058 seconds

	Output
1	The cost of the under shirt on this day was 14.99