

## Part 1

### Part 1

1. select \* from sales\_representatives natural join sales\_rep\_addresses;

The screenshot shows the Oracle SQL Developer interface. The 'Worksheet' tab is active, displaying the query: 'select \* from sales\_representatives natural join sales\_rep\_addresses;'. Below the worksheet is the 'Query Result' pane, which displays the fetched data:

ID	EMAIL	FIRST_NAME	LAST_NAME	PHONE_NUMBER	COMMISSION_RATE	SUPERVISOR_ID	ADDRESS_LINE_1	ADDRESS_LINE_2	CITY	ZIP_CODE
1	chrash@obl.com	Charles	Raymond	0134598761	10	sr01	12 Cherry Lane	Denton	Detroit	DT49211
2	vwright@obl.com	Victoria	Wright	0134598762	5	sr01	87 Blossom Hill	Uptown	Detroit	DT53314
3	bspeed@obl.com	Barry	Speed	0134598763	5	sr01	12 Junction Row	Skinflats	Detroit	DT52564

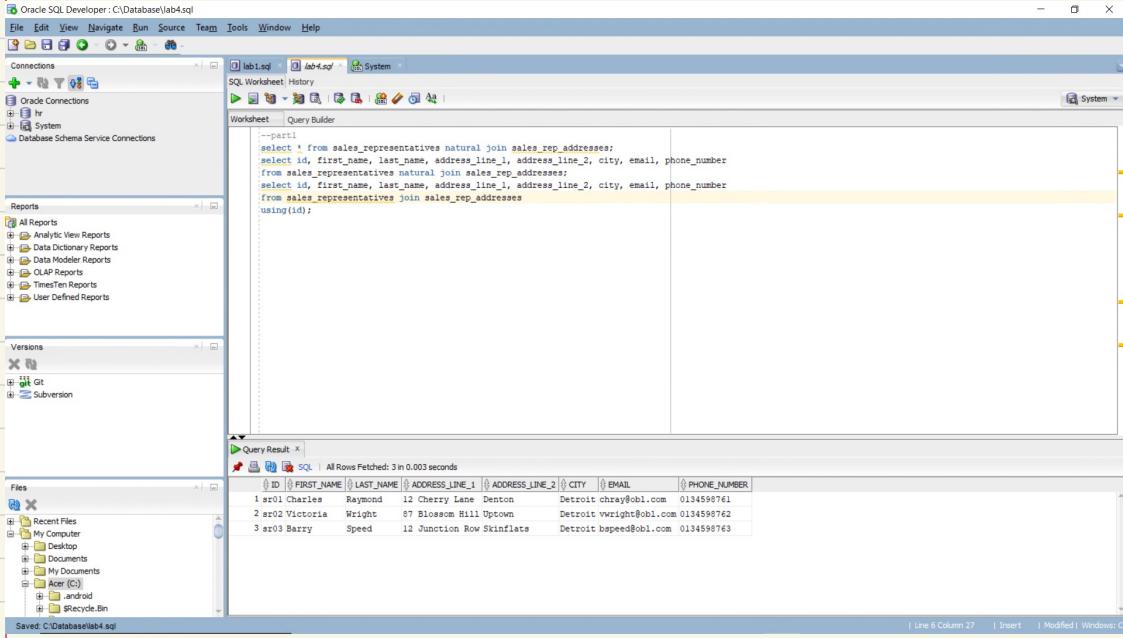
2. select id, first\_name, last\_name, address\_line\_1, address\_line\_2, city, email, phone\_number  
from sales\_representatives natural join sales\_rep\_addresses;

The screenshot shows the Oracle SQL Developer interface. The 'Worksheet' tab is active, displaying the query: 'select id, first\_name, last\_name, address\_line\_1, address\_line\_2, city, email, phone\_number from sales\_representatives natural join sales\_rep\_addresses;'. Below the worksheet is the 'Query Result' pane, which displays the fetched data:

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

## Part 2

1. 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);



```
--part1
select * from sales_representatives natural join sales_rep_addresses;
select id, first_name, last_name, address_line_1, address_line_2, city, email, phone_number
from sales_representatives natural join sales_rep_addresses;
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);

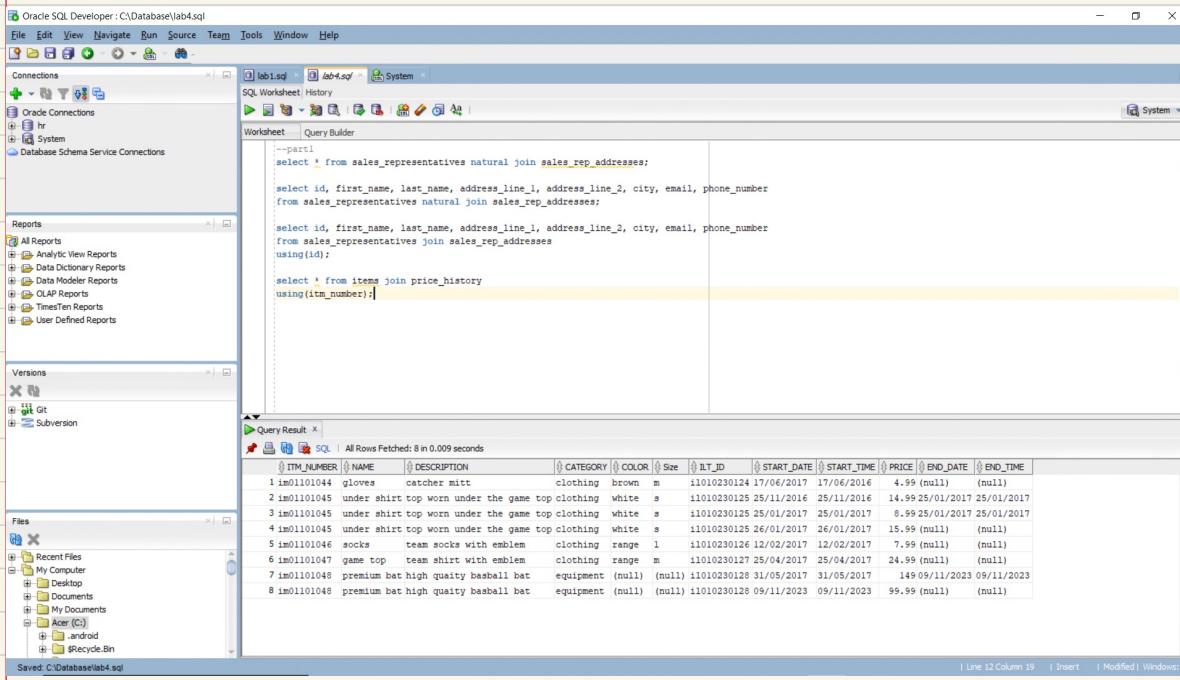
--part2

```

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	vrwright@obl.com	0134598762
3	sr03	Barry	Speed	12 Junction Row	Skinflats	Detroit	bspeed@obl.com	0134598763

2. select \* from items join price\_history

using (itm\_number);



```
--part1
select * from sales_representatives natural join sales_rep_addresses;

select id, first_name, last_name, address_line_1, address_line_2, city, email, phone_number
from sales_representatives natural join sales_rep_addresses;

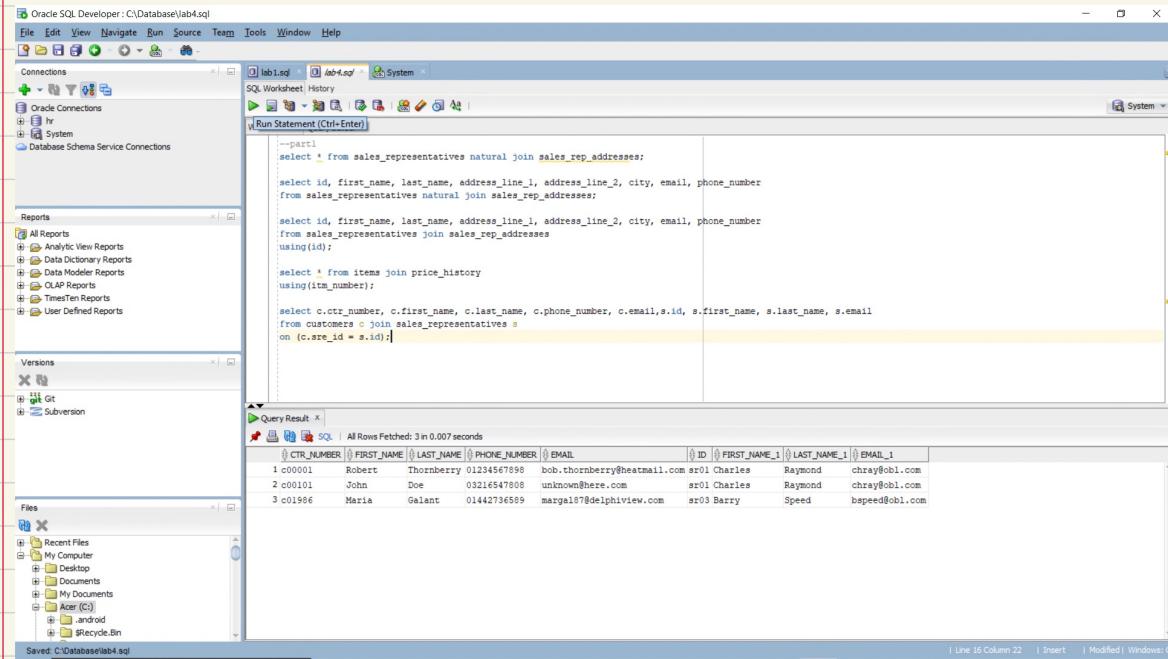
select id, first_name, last_name, address_line_1, address_line_2, city, email, phone_number
from sales_representatives join sales_rep_addresses
using(id);

select * from items join price_history
using(itm_number);
```

ITEM_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	i1010230124	17/06/2017	17/06/2016	4.99	(null)	(null)
2	im01101045	under shirt top worn under the game top	clothing	white	s	i1010230125	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	i1010230125	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	i1010230125	26/01/2017	26/01/2017	15.99	(null)	(null)
5	im01101046	socks team socks with emblem	clothing	range	l	i1010230126	12/02/2017	12/02/2017	7.99	(null)	(null)
6	im01101047	game top team shirt with emblem	clothing	range	m	i1010230127	25/04/2017	25/04/2017	24.99	(null)	(null)
7	im01101048	premium bat high quality baseball bat	equipment	(null)	(null)	i1010230128	31/05/2017	31/05/2017	149.09	11/2023	09/11/2023
8	im01101048	premium bat high quality baseball bat	equipment	(null)	(null)	i1010230128	09/11/2023	09/11/2023	99.99	(null)	(null)

### Part 3

D) select c.ctr\_number, c.first\_name, c.last\_name, c.phone\_number, c.email, s.id, s.first\_name, s.last\_name, s.email  
from customer c join sales\_representatives s  
on c.sre\_id = s.id)



The screenshot shows the Oracle SQL Developer interface. The SQL Worksheet pane contains the following multi-part query:

```
--part1
select * from sales_representatives natural join sales_rep_addresses;
select id, first_name, last_name, address_line_1, address_line_2, city, email, phone_number
from sales_representatives natural join sales_rep_addresses;

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 * from items join price_history
using(item_number);

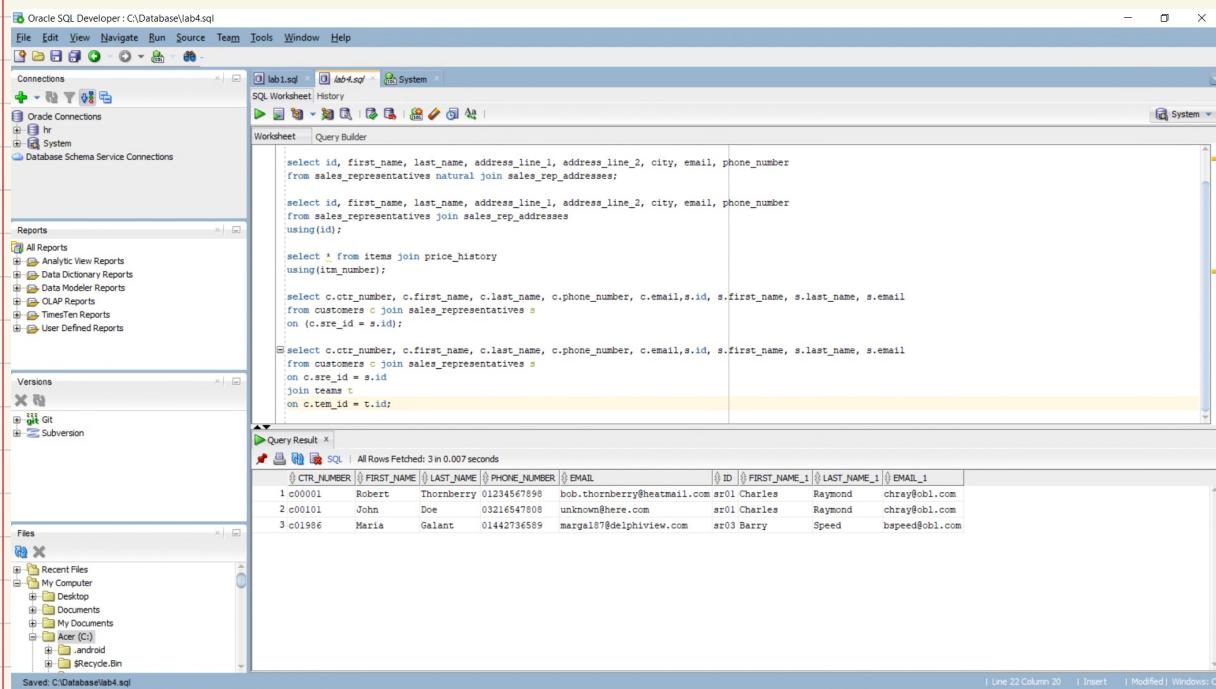
select c.ctr_number, c.first_name, c.last_name, c.phone_number, c.email, s.id, s.first_name, s.last_name, s.email
from customers c join sales_representatives s
on (c.sre_id = s.id);
```

The Query Result pane displays the fetched data:

CTR_NUMBER	FIRST_NAME	LAST_NAME	PHONE_NUMBER	EMAIL	ID	FIRST_NAME_1	LAST_NAME_1	EMAIL_1
1 c00001	Robert	Thornberry	01234567898	bob.thornberry@heatmail.com	srl1	Charles	Raymond	chray@obl.com
2 c00101	John	Doe	03216547808	unknown@here.com	srl2	Charles	Raymond	chray@obl.com
3 c01986	Maria	Gelant	01442736599	margal87@delphiview.com	srl3	Berry	Speed	bspeed@obl.com

## Part 4

```
1. select c ctr_number , c.first_name , c.last_name , c.phone_number , c.email , s.id , s.first_name , s.last_name , s.email  
from customer c join sales_representatives s  
on c.sre_id = s.id  
join teams t  
on c.team_id = t.id;
```



The screenshot shows the Oracle SQL Developer interface. The 'Worksheet' tab is active, displaying the SQL query from Part 4. The 'Query Result' tab shows the executed query's output:

CTR_NUMBER	FIRST_NAME	LAST_NAME	PHONE_NUMBER	EMAIL	ID	FIRST_NAME_1	LAST_NAME_1	EMAIL_1
c00001	Robert	Thornberry	01234567890	bob.thornberry@heatmail.com	sr01	Charles	Raymond	chray@obl.com
c00101	John	Doe	03216547800	unknown@here.com	sr01	Charles	Raymond	chray@obl.com
c01986	Maria	Galant	01442736589	margal87@delphiview.com	sr03	Barry	Speed	bspeed@obl.com

## Part 5

```
1. select c.ctr_number, c.first_name, c.last_name, c.phone_number, c.email, s.id, s.first_name, s.last_name, s.email  
from customer c join sales_representatives s  
on c.sre_id = s.id  
join teams t  
on c.team_id = t.id  
where c.ctr_number = 'c00001';
```

The screenshot shows the Oracle SQL Developer interface with the following details:

- Connections:** Oracle Connections, hr, System.
- Reports:** All Reports, Analytic View Reports, Data Dictionary Reports, Data Modeler Reports, OLAP Reports, TimesTen Reports, User Defined Reports.
- Versions:** Git, Subversion.
- Files:** Recent Files, My Computer, Desktop, Documents, My Documents, Acer (C:) (Android, Recycle.Bin).
- Worksheet:** Tab titled "lab1.sql" containing the query from Part 5.
- Query Result:** Tab titled "lab4.sql" showing the output of the query. The output table has columns: CTR\_NUMBER, FIRST\_NAME, LAST\_NAME, PHONE\_NUMBER, ID, FIRST\_NAME\_1, LAST\_NAME\_1, EMAIL\_1. The single row returned is:

CTR_NUMBER	FIRST_NAME	LAST_NAME	PHONE_NUMBER	ID	FIRST_NAME_1	LAST_NAME_1	EMAIL_1
c00001	Robert	Thornberry	01234567890	sr01	Charles	Raymond	chray@obl.com

## Part 6

1. select 'The cost of the'|| i.name ||'on this day is' || p.price  
from items i join price\_history p  
on i.item\_number = 'im011045' and ('12-Dec-2016' between p.start\_date and p.end\_date);

The screenshot shows the Oracle SQL Developer interface with the following details:

- Connections:** Oracle Connections (hr, System).
- Reports:** All Reports, Analytic View Reports, Data Dictionary Reports, Data Modeler Reports, OLAP Reports, TimesTen Reports, User Defined Reports.
- Versions:** Git, Subversion.
- Files:** Recent Files (My Computer, Desktop, Documents, My Documents, Acer (C), android, KeeYode.Bin).
- SQL Worksheet:** The query is entered in the Run Statement tab:

```
select c.ctr_number, c.first_name, c.last_name, c.phone_number, c.email, s.id, s.first_name, s.last_name, s.email
from customers c join sales_representatives s
on c.sre_id = s.id;
;
select c.ctr_number, c.first_name, c.last_name, c.phone_number, c.email, s.id, s.first_name, s.last_name, s.email
from customers c join sales_representatives s
on c.sre_id = s.id
join teams t
on c.team_id = t.id;
;
select c.ctr_number, c.first_name, c.last_name, c.phone_number, c.email, s.id, s.first_name, s.last_name, s.email
from customers c join sales_representatives s
on c.sre_id = s.id
join teams t
on c.team_id = t.id
where c.ctr_number = 'c00001';
;
select 'The cost of the'||i.name||' on this day is' || price from items i join price_history p
on i.item_number = 'im011045' and ('12-Dec-2016' between p.start_date and p.end_date);
```
- Query Result:** The result of the query is displayed in the SQL tab:

```
THE COST OF THE|IM011045| ON THIS DAY IS|14.99|
```
- Status Bar:** Line 32 Column 50 | Insert | Modified | Windows: 0

## Part 2

### Part 1

1. Select sr.first\_name || ' ' || sr.last\_name "Sales Representative", sv.first\_name || ' ' || sv.last\_name "Supervisor"  
from salesRepresentative sr join salesRepresentative sv  
on (sr.supervisor\_id = sv.id);

The screenshot shows the Oracle SQL Developer interface. The left sidebar contains sections for Connections, Reports, Versions, and Files. The main area has a 'Worksheet' tab open with the following SQL code:

```
join teams t
on c.team_id = t.id;
select c.ctr_number, c.first_name, c.last_name, c.phone_number, c.email, s.id, s.first_name, s.last_name, s.email
from customers c join sales_representatives s
on c.customer_id = s.id
join teams t
on c.team_id = t.id
where c.ctr_number = 'c00001';

select 'The cost of the'||i.name||' on this day is '|| price from items i join price_history p
on i.item_number = 'im01101045' and ('12-Dec-2016' between p.start_date and p.end_date);

--part 2
select sr.first_name || ' ' || sr.last_name "Sales Representatives", sv.first_name || ' ' || sv.last_name "Supervisor"
from sales_representatives sr join sales_representatives sv
on (sr.supervisor_id = sv.id);
```

The 'Query Result' tab shows the output of the last part of the query:

Sales Representatives	Supervisor
1 Charles Raymond	Charles Raymond
2 Victoria Wright	Charles Raymond
3 Barry Speed	Charles Raymond

At the bottom right of the interface, there are status bars for 'Line 37 Column 31', 'Insert', and 'Windows: 0'.

## Part 2

1. Select \* from teams t right outer join customers c  
on t.id = c.team\_id;

The screenshot shows the Oracle SQL Developer interface. The 'Worksheet' tab contains the following SQL code:

```
on cteam_id = t.id;
select * from teams t
right outer join customers c
on t.id = c.team_id;
```

The 'Query Result' tab displays the output of the query, which is a table with the following data:

ID	NAME	NUMBER_OF_PLAYERS	DISCOUNT	CTR_NUMBER	EMAIL	FIRST_NAME	LAST_NAME	PHONE_NUMBER	CURRENT_BALANCE	SRC_ID	TEM_ID	LOYALTY_CARD_ID
t001	Rockets	25	10	c00001	bob.thornberry@heatmail.com	Robert	Thornberry	01234567898	150	sr01	t001	(null)
t002	Celtics	42	20	c00101	unknown@here.com	John	Doe	03216547808	987.5	sr01	t002	(null)
t003	Rovers	8	(null)	c01986	margal87@delphiview.com	Maria	Galant	01442736589	125.65	sr03	t003	(null)
4	(null)	(null)	(null)	c00012	Jjones@freemail.com	Jennifer	Jones	01505214598	0	(null)	(null)	lc1015
5	(null)	(null)	(null)	c00103	Murcia@globaltech.com	Andrew	Murcia	07715246890	85	(null)	(null)	lc2341
6	(null)	(null)	(null)	c02001	brianrog@hootech.com	Brian	Rogers	01654564898	50	(null)	(null)	lc4587

### Part 3

1. Select \* from customers, sales\_representatives;

The screenshot shows the Oracle SQL Developer interface with the following details:

- Connections:** Oracle Connections (HR, System).
- Reports:** All Reports, Analytic View Reports, Data Dictionary Reports, Data Modeler Reports, OLAP Reports, TimesTen Reports, User Defined Reports.
- Versions:** Git, Subversion.
- Files:** Recent Files, My Computer (Desktop, Documents, My Documents, Acer (C:), \$Recycle.Bin).
- SQL Worksheet:** Contains the following SQL code:

```
select c ctr_number, c.first_name, c.last_name, c.phone_number, c.email, s.id, s.first_name, s.last_name, s.email
from customers c join sales_representatives s
on c.sre_id = s.id
join teams t
on c.tem_id = t.id
where c.ctr_number = 'c00001';

select 'The cost of the'||i.name||' on this day is '|| price from items i join price_history p
on i.item_number = 'im01101045' and ('12-Dec-2016' between p.start_date and p.end_date);

--part 2
select sr.first_name || ' ' || sr.last_name "Sales Representatives", sv.first_name || ' ' || sv.last_name "Supervisor"
from sales_representatives sr join sales_representatives sv
on (sr.supervisor_id = sv.id);

select *
from teams t right outer join customers c
on t.id = c.tem_id;

select * from customers, sales_representatives;
```
- Query Result:** Shows the results of the last query, displaying 18 rows of data. The columns are: CTR\_NUMBER, EMAIL, FIRST\_NAME, LAST\_NAME, PHONE\_NUMBER, CURRENT\_BALANCE, SRE\_ID, TEM\_ID, LOYALTY\_CARD\_NUMBER, ID, EMAIL\_1, FIRST\_NAME\_1, LAST\_NAME\_1.
- Status Bar:** Saved: C:\Database\lab4.sql | Line 43 Column 48 | Insert | Modified | Windows: 0