

Experiment 6

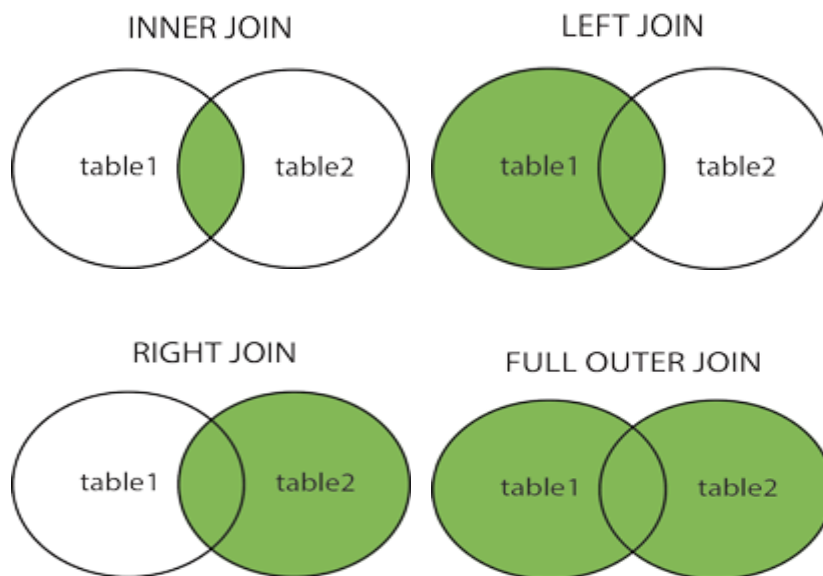
Aim: To Perform Join operations

Resources required: P-IV and above, notepad, browser, stylus studio

Theory:

Different types of the JOINS in SQL:

- **(INNER) JOIN:** Returns records that have matching values in both tables
- **LEFT (OUTER) JOIN:** Return all records from the left table, and the matched records from the right table
- **RIGHT (OUTER) JOIN:** Return all records from the right table, and the matched records from the left table
- **FULL (OUTER) JOIN:** Return all records when there is a match in either left or right table



```
select master.rno, demo.rno, demo.name from master right outer join demo on  
master.rno=demo.rno;
```

Conclusion: We have successfully performed various join operations using MySQL command line.

Code and Output:

```
MySQL 8.0 Command Line Client
mysql> select * from customers;
```

customer_id	first_name	last_name	birth_date	phone	address	city	state	points
1	Babara	MacCaffrey	1986-03-28	781-932-9754	0 Sage Terrace	Waltham	MA	2273
2	Ines	Brushfield	1986-04-13	804-427-9456	14187 Commercial Trail	Hampton	VA	947
3	Freddi	Boagey	1985-02-07	719-724-7869	251 Springs Junction	Colorado Springs	CO	2967
4	Ambur	Roseburgh	1974-04-14	407-231-8017	30 Arapahoe Terrace	Orlando	FL	457
5	Clemmie	Betchley	1973-11-07	NULL	5 Spohn Circle	Arlington	TX	3675
6	Elka	Twiddell	1991-09-04	312-480-8498	7 Manley Drive	Chicago	IL	3073
7	Ilene	Dowson	1964-08-30	615-641-4759	50 Lillian Crossing	Nashville	TN	1672
8	Thacher	Naseby	1993-07-17	941-527-3977	538 Mosinee Center	Sarasota	FL	205
9	Romola	Rumgay	1992-05-23	559-181-3744	3520 Ohio Trail	Visalia	CA	1486
10	Levy	Mynett	1969-10-13	404-246-3370	68 Lawn Avenue	Atlanta	GA	796

```
10 rows in set (0.00 sec)

mysql> select * from orders;
```

order_id	customer_id	order_date	status	comments	shipped_date	shipper_id
1	6	2019-01-30	1	NULL	NULL	NULL
2	7	2018-08-02	2	NULL	2018-08-03	4
3	8	2017-12-01	1	NULL	NULL	NULL
4	2	2017-01-22	1	NULL	NULL	NULL
5	5	2017-08-25	2		2017-08-26	3
6	10	2018-11-18	1	Aliquam erat volutpat. In congue.	NULL	NULL
7	2	2018-09-22	2	NULL	2018-09-23	4
8	5	2018-06-08	1	Mauris enim leo, rhoncus sed, vestibulum sit amet, cursus id, turpis.	NULL	NULL
9	10	2017-07-05	2	Nulla mollis molestie lorem. Quisque ut erat.	2017-07-06	1
10	6	2018-04-22	2	NULL	2018-04-23	2

```
10 rows in set (0.00 sec)

mysql> select c.first_name,c.phone,c.address,c.city,o.order_id,o.order_date,o.shipped_date from customers c join orders o on c.customer_id = o.customer_id and o.shipped_date is not NULL;
```

first_name	phone	address	city	order_id	order_date	shipped_date
Ilene	615-641-4759	50 Lillian Crossing	Nashville	2	2018-08-02	2018-08-03
Clemmie	NULL	5 Spohn Circle	Arlington	5	2017-08-25	2017-08-26
Ines	804-427-9456	14187 Commercial Trail	Hampton	7	2018-09-22	2018-09-23
Levy	404-246-3370	68 Lawn Avenue	Atlanta	9	2017-07-05	2017-07-06
Elka	312-480-8498	7 Manley Drive	Chicago	10	2018-04-22	2018-04-23

```
5 rows in set (0.00 sec)
```

```
MySQL 8.0 Command Line Client

mysql> select c.customer_id,c.first_name as name,o.order_id from customers c left join orders o on c.customer_id = o.customer_id;
```

customer_id	name	order_id
1	Babara	NULL
2	Ines	4
2	Ines	7
3	Freddi	NULL
4	Ambur	NULL
5	Clemmie	5
5	Clemmie	8
6	Elka	1
6	Elka	10
7	Ilene	2
8	Thacher	3
9	Romola	NULL
10	Levy	6
10	Levy	9

```
14 rows in set (0.01 sec)
```

MySQL 8.0 Command Line Client

mysql> select * from employees;

employee_id	first_name	last_name	job_title	salary	reports_to	office_id
33391	D'arcy	Nortunen	Account Executive	62871	37270	1
37270	Yovonnda	Magrannell	Executive Secretary	63996	NULL	10
37851	Sayer	Matterson	Statistician III	98926	37270	1
40448	Mindy	Crissil	Staff Scientist	94860	37270	1
56274	Keriann	Alloisi	VP Marketing	110150	37270	1
63196	Alaster	Scutchin	Assistant Professor	32179	37270	2
67009	North	de Clerc	VP Product Management	114257	37270	2
67370	Elladine	Rising	Social Worker	96767	37270	2
68249	Nisse	Voysey	Financial Advisor	52832	37270	2
72540	Guthrey	Iacopetti	Office Assistant I	117690	37270	3
72913	Kass	Hefferan	Computer Systems Analyst IV	96401	37270	3
75900	Virge	Goodrum	Information Systems Manager	54578	37270	3
76196	Mirilla	Janowski	Cost Accountant	119241	37270	3
80529	Lynde	Aronson	Junior Executive	77182	37270	4
80679	Mildrid	Sokale	Geologist II	67987	37270	4
84791	Hazel	Tarbert	General Manager	93760	37270	4
95213	Cole	Kesterton	Pharmacist	86119	37270	4
96513	Theresa	Binney	Food Chemist	47354	37270	5
98374	Estrellita	Daleman	Staff Accountant IV	70187	37270	5
115357	Ivy	Fearey	Structural Engineer	92710	37270	5

20 rows in set (0.00 sec)

mysql> select e.first_name as "Employee Name", m.first_name as "Manager Name" from employees e join employees m on e.reports_to = m.employee_id;

Employee Name	Manager Name
D'arcy	Yovonnda
Sayer	Yovonnda
Mindy	Yovonnda
Keriann	Yovonnda
Alaster	Yovonnda
North	Yovonnda
Elladine	Yovonnda
Nisse	Yovonnda
Guthrey	Yovonnda
Kass	Yovonnda
Virge	Yovonnda
Mirilla	Yovonnda
Lynde	Yovonnda
Mildrid	Yovonnda
Hazel	Yovonnda
Cole	Yovonnda
Theresa	Yovonnda
Estrellita	Yovonnda
Ivy	Yovonnda

MySQL 8.0 Command Line Client

mysql> select * from order_items;

order_id	product_id	quantity	unit_price
1	4	4	3.74
2	1	2	9.10
2	4	4	1.66
2	6	2	2.94
3	3	10	9.12
4	3	7	6.99
4	10	7	6.40
5	2	3	9.89
6	1	4	8.65
6	2	4	3.28
6	3	4	7.46
6	5	1	3.45
7	3	7	9.17
8	5	2	6.94
8	8	2	8.59
9	6	5	7.28
10	1	10	6.01
10	9	9	4.28

18 rows in set (0.01 sec)

mysql> select * from products;

product_id	name	quantity_in_stock	unit_price
1	Foam Dinner Plate	70	1.21
2	Pork - Bacon,back Peameal	49	4.65
3	Lettuce - Romaine, Heart	38	3.35
4	Brocolinni - Gaylan, Chinese	90	4.53
5	Sauce - Ranch Dressing	94	1.63
6	Petit Baguette	14	2.39
7	Sweet Pea Sprouts	98	3.29
8	Island Oasis - Raspberry	26	0.74
9	Longan	67	2.26
10	Broom - Push	6	1.09

10 rows in set (0.00 sec)

```
MySQL 8.0 Command Line Client
mysql> select p.product_id,p.name,o.quantity from order_items o right join products p on p.product_id = o.product_id;
```

product_id	name	quantity
1	Foam Dinner Plate	2
1	Foam Dinner Plate	4
1	Foam Dinner Plate	10
2	Pork - Bacon,back Peameal	3
2	Pork - Bacon,back Peameal	4
3	Lettuce - Romaine, Heart	10
3	Lettuce - Romaine, Heart	7
3	Lettuce - Romaine, Heart	4
3	Lettuce - Romaine, Heart	7
4	Brocolinni - Gaylan, Chinese	4
4	Brocolinni - Gaylan, Chinese	4
5	Sauce - Ranch Dressing	1
5	Sauce - Ranch Dressing	2
6	Petit Baguette	2
6	Petit Baguette	5
7	Sweet Pea Sprouts	NULL
8	Island Oasis - Raspberry	2
9	Longan	9
10	Broom - Push	7

19 rows in set (0.00 sec)

```
MySQL 8.0 Command Line Client
mysql> show tables;
```

Tables_in_sql_store
customers
order_item_notes
order_items
order_statuses
orders
products
shippers

7 rows in set (0.00 sec)

```
mysql> select c.first_name as Name,o.order_id,o.order_date,sh.name as shipper,os.name from customers c join orders o on c.customer_id = o.customer_id left join shippers sh on o.shipper_id = sh.shipper_id join order_statuses os on o.status = os.order_status_id;
```

Name	order_id	order_date	shipper	name
Elka	1	2019-01-30	NULL	Processed
Thacher	3	2017-12-01	NULL	Processed
Ines	4	2017-01-22	NULL	Processed
Levy	6	2018-11-18	NULL	Processed
Clemmie	8	2018-06-08	NULL	Processed
Ilene	2	2018-08-02	Mrasz, Renner and Nolan	Shipped
Clemmie	5	2017-08-25	Satterfield LLC	Shipped
Ines	7	2018-09-22	Mrasz, Renner and Nolan	Shipped
Levy	9	2017-07-05	Hettinger LLC	Shipped
Elka	10	2018-04-22	Schinner-Predovic	Shipped

10 rows in set (0.00 sec)

```
MySQL 8.0 Command Line Client
mysql> select * from products p left join order_items o on p.product_id = o.product_id union select * from products p right join order_items o on p.product_id = o.product_id;
```

product_id	name	quantity_in_stock	unit_price	order_id	product_id	quantity	unit_price
1	Foam Dinner Plate	70	1.21	2	1	2	9.10
1	Foam Dinner Plate	70	1.21	6	1	4	8.65
1	Foam Dinner Plate	70	1.21	10	1	10	6.01
2	Pork - Bacon,back Peameal	49	4.65	5	2	3	9.89
2	Pork - Bacon,back Peameal	49	4.65	6	2	4	3.28
3	Lettuce - Romaine, Heart	38	3.35	3	3	10	9.12
3	Lettuce - Romaine, Heart	38	3.35	4	3	7	6.99
3	Lettuce - Romaine, Heart	38	3.35	6	3	4	7.46
3	Lettuce - Romaine, Heart	38	3.35	7	3	7	9.17
4	Brocolinni - Gaylan, Chinese	90	4.53	1	4	4	3.74
4	Brocolinni - Gaylan, Chinese	90	4.53	2	4	4	1.66
5	Sauce - Ranch Dressing	94	1.63	6	5	1	3.45
5	Sauce - Ranch Dressing	94	1.63	8	5	2	6.94
6	Petit Baguette	14	2.39	2	6	2	2.94
6	Petit Baguette	14	2.39	9	6	5	7.28
7	Sweet Pea Sprouts	98	3.29	NULL	NULL	NULL	NULL
8	Island Oasis - Raspberry	26	0.74	8	8	2	8.59
9	Longan	67	2.26	10	9	9	4.28
10	Broom - Push	6	1.09	4	10	7	6.40

19 rows in set (0.00 sec)