Lab - 5

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```
MySQL 8.0 Command Line Client
mysql> SELECT customer name FROM depositor UNION (SELECT customer name FROM borrower);
 customer_name
 Johnson
 Hayes
 Smith
 Jones
 Lindsay
 Turner
 Adams
 Williams
 Curry
9 rows in set (0.00 sec)
mysql> SELECT DISTINCT customer_name FROM loan NATURAL JOIN borrower WHERE customer_name IN (SELECT custo
mer name FROM account NATURAL JOIN depositor);
 customer name
 Jones
 Hayes
 Smith
3 rows in set (0.00 sec)
```

```
MySQL 8.0 Command Line Client
mysql> SELECT DISTINCT customer_name FROM loan NATURAL JOIN borrower WHERE customer_name NOT IN (SELECT c
ustomer name FROM account NATURAL JOIN depositor);
 customer name
 Williams
 Curry
 Adams
3 rows in set (0.00 sec)
mysql> SELECT DISTINCT L.branch_name FROM branch AS L, branch AS M WHERE L.ASSETS > M.ASSETS and M.branch
city = "BROOKLYN";
 branch_name
 Downtown
 Round Hill
2 rows in set (0.00 sec)
mysql> SELECT branch name FROM branch WHERE ASSETS > SOME (SELECT ASSETS FROM branch WHERE branch city =
"BROOKLYN");
 branch name
 Downtown
 Round Hill
2 rows in set (0.00 sec)
```

```
MySQL 8.0 Command Line Client
mysql> SELECT branch_name FROM account GROUP BY branch_name HAVING AVG (balance) >= ALL ( SELECT AVG (b
alance) FROM account GROUP BY branch name);
  branch_name
 Brighton
1 row in set (0.00 sec)
mysql> SELECT DISTINCT customer_name FROM borrower WHERE EXISTS ( SELECT * FROM depositor WHERE deposit
or.customer name = borrower.customer name);
 customer_name
 Hayes
  Jones
  Smith
3 rows in set (0.00 sec)
mysql>
```

```
MySQL 8.0 Command Line Client
mysql> SELECT * FROM loan NATURAL JOIN borrower;
 loan number | branch name | amount | customer name
                Round Hill
                                 900
                                        Smith
 L-11
 L-15
                Perryridge
                                1500
                                       Haves
 L-16
                Perryridge
                                1300
                                       Adams
 L-17
                Downtown
                                1000
                                       Jones
 L-17
                                       Williams
                Downtown
                                1000
 L-23
                                       Smith
                Redwood
                                2000
 L-93
                Mianus
                                 500
                                       Curry
7 rows in set (0.00 sec)
mysql> SELECT * FROM loan INNER JOIN borrower ON borrower.loan number = loan.loan number;
 loan number | branch name | amount | customer name | loan number
 L-11
                Round Hill
                                 900
                                       Smith
                                                        L-11
                                1500
 L-15
                Perryridge
                                                        L-15
                                       Hayes
 L-16
                Perryridge
                                1300
                                       Adams
                                                        L-16
 L-17
                Downtown
                                1000
                                                        L-17
                                       Jones
 L-17
                                       Williams
                Downtown
                                1000
                                                       L-17
 L-23
                                       Smith
                Redwood
                                2000
                                                        L-23
 L-93
                Mianus
                                 500
                                       Curry
                                                        L-93
7 rows in set (0.00 sec)
```

	mmand Line Client						
sql> SELECT	* FROM loan NATU	RAL RIGHT OUTE	R JOIN borrowe	r;			
loan_number	customer_name	+ branch_name	t amount				
L-11	+ Smith	+ Round Hill	++ 900				
L-15	Hayes	Perryridge	1500				
L-16	Adams	Perryridge	1300				
L-17	Jones	Downtown	1000				
L-17	Williams	Downtown	1000				
L-23	Smith	Redwood	2000				
	· Control of the cont	and the second s					
L-93 rows in set		Mianus + RIGHT OUTER JO	500 ++ IN loan ON bor	rower.loan	number = loan	.loan number;	
rows in set	,	RIGHT OUTER JO:	IN loan ON bor	+	_number = loan	.loan_number;	
rows in set sql> SELECT customer_nam	+ (0.00 sec) * FROM borrower	RIGHT OUTER JO:	IN loan ON bor	+	_number = loan	.loan_number;	
rows in set	+ (0.00 sec) * FROM borrower + e loan_number	RIGHT OUTER JO: + loan_number +	IN loan ON bori	+ amount +	_number = loan	.loan_number;	
rows in set sql> SELECT customer_nam Smith NULL	+ (0.00 sec) * FROM borrower + e loan_number + L-11	#RIGHT OUTER JO: # loan_number # L-11	IN loan ON born t branch_name t Round Hill Downtown	+ amount + 900	_number = loan	.loan_number;	
rows in set sql> SELECT customer_nam	+ (0.00 sec) * FROM borrower + e loan_number + L-11 NULL	RIGHT OUTER JO: + loan_number + L-11 L-14	IN loan ON born + branch_name + Round Hill	+ amount + 900 1500	_number = loan	.loan_number;	
rows in set sql> SELECT customer_nam Smith NULL Hayes	+(0.00 sec) * FROM borrower + e loan_number+ L-11 NULL L-15	HODIER JOS HODIER JOS	IN loan ON born t branch_name t Round Hill Downtown Perryridge	amount amount 900 1500	_number = loan	.loan_number;	
rows in set sql> SELECT customer_nam Smith NULL Hayes Adams	+(0.00 sec) * FROM borrower + e loan_number+ L-11 NULL L-15 L-16	RIGHT OUTER JO: +	IN loan ON born t branch_name t Round Hill Downtown Perryridge Perryridge	amount amount 900 1500 1300	_number = loan	.loan_number;	
rows in set sql> SELECT customer_nam Smith NULL Hayes Adams Jones	+ (0.00 sec) * FROM borrower + e loan_number + L-11 NULL L-15 L-16 L-17	HIGHT OUTER JO: loan_number L-11 L-14 L-15 L-16 L-17	IN loan ON born t branch_name t Round Hill Downtown Perryridge Perryridge Downtown	amount 900 1500 1500 1300	_number = loan	.loan_number;	

```
MySQL 8.0 Command Line Client
mysql> SELECT * FROM loan NATURAL LEFT OUTER JOIN borrower;
 loan number | branch name | amount | customer name
                                        Smith
 L-11
                Round Hill
                                 900
 L-14
                Downtown
                                1500
                                        NULL
 L-15
                Perryridge
                                1500
                                        Hayes
 L-16
                Perryridge
                                1300
                                        Adams
 L-17
                Downtown
                                1000
                                        Jones
 L-17
                Downtown
                                1000
                                        Williams
 L-23
                                        Smith
                Redwood
                                2000
 L-93
                Mianus
                                  500
                                        Curry
8 rows in set (0.00 sec)
mysql> SELECT * FROM borrower LEFT OUTER JOIN loan ON borrower.loan number = loan.loan number;
 customer name | loan number | loan number | branch name |
                                                             amount
 Smith
                  L-11
                                L-11
                                               Round Hill
                                                                 900
                                               Perryridge
 Hayes
                  L-15
                                L-15
                                                               1500
 Adams
                  L-16
                                L-16
                                               Perryridge
                                                               1300
 Jones
                  L-17
                                L-17
                                               Downtown
                                                               1000
 Williams
                  L-17
                                L-17
                                               Downtown
                                                               1000
 Smith
                                               Redwood
                  L-23
                                L-23
                                                                2000
 Curry
                  L-93
                                L-93
                                               Mianus
                                                                 500
7 rows in set (0.00 sec)
```

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	mmand Line Client						
sq1> SELECT	* FROM loan FUI	FROM loan FULL JOIN borrower;					
loan_number	branch_name	amount	customer_name	loan_number			
L-93	Mianus	500	Smith	L-11			
-23	Redwood	2000	Smith	L-11			
L-17	Downtown	1000	Smith	L-11			
L-16 L-15	Perryridge Perryridge	1300 1500	Smith Smith	L-11 L-11			
L-14	Downtown	1500	Smith	L-11			
L-11	Round Hill	900	Smith	L-11			
L-93	Mianus	500	Hayes	L-15			
L-23	Redwood	2000	Hayes	L-15			
L-17	Downtown	1000	Hayes	L-15			
L-16	Perryridge	1300	Hayes	L-15			
L-15 L-14	Perryridge Downtown	1500	Hayes	L-15 L-15			
L-14 L-11	Round Hill	900	Hayes Hayes	L-15			
L-93	Mianus	500	Adams	L-16			
L-23	Redwood	2000	Adams	L-16			
L-17	Downtown	1000	Adams	L-15			
L-16	Perryridge	1300	Adams	L-16			
L-15	Perryridge	1500	Adams	L-16			
L-14	Downtown	1500	Adams	L-16			
L-11	Round Hill	900	Adams	L-16			
L-93 L-23	Mianus Redwood	500 2000	Jones Jones	L-17 L-17			
L-23 L-17	Downtown	1000	Jones	L-17			
L-16	Perryridge	1300	Jones	L-17			
L-15	Perryridge	1500	Jones	L-17			
L-14	Downtown	1500	Jones	L-17			
L-11	Round Hill	900	Jones	L-17			
L-93	Mianus	500	Williams	L-17			
L-23	Redwood	2000	Williams	L-17			
L-17	Downtown	1000	Williams Jones	L-17			
L-16	Perryridge	1300	Jones	L-17			
L-15 L-14	Perryridge Downtown	1500	Jones	L-17			
	Round Hill	900		L-17 L-17			
L-11	Mianus		Jones				
L-93 L-23	Redwood	500 2000	Williams Williams	L-17 L-17			
		1000					
L-17	Downtown		Williams	L-17			
L-16	Perryridge	1300	Williams	L-17			
L-15	Perryridge	1500	Williams	L-17			
L-14	Downtown	1500	Williams	L-17			
L-11	Round Hill	900	Williams	L-17			
L-93	Mianus	500	Smith	L-23			
L-23	Redwood	2000	Smith	L-23			
L-17	Downtown	1000	Smith	L-23			
L-16	Perryridge	1300	Smith	L-23			
L-15	Perryridge	1500	Smith	L-23			
L-14	Downtown	1500	Smith	L-23			
L-11	Round Hill	900	Smith	L-23			
L-93	Mianus	500	Curry	L-93			
L-23	Redwood	2000	Curry	L-93			
L-17	Downtown	1000	Curry	L-93			
L-16	Perryridge	1300	Curry	L-93			
L-15	Perryridge	1500	Curry	L-93			
L-14	Downtown	1500	Curry	L-93			
L-11	Round Hill	900	Curry	L-93			