Joins in SQL

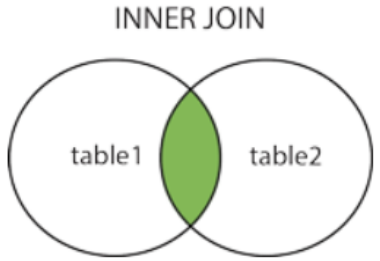
LEXICON

Inner join

LEXICON

Syntax:

```
SELECT table1.column_name(s), table2.column_name(s) FROM table1 INNER JOIN
table2 ON table1.column_name = table2.column_name
;
```



Employee Table

EmpId	FirstName	LastName	Email	Salary	DeptId
1	'John'	'King'	'john.king@abc.com'	33000	1
2	'James'	'Bond'			
3	'Neena'	'Kochhar'	'neena@test.com'	17000	2
4	'Lex'	'De Haan'	'lex@test.com'	15000	1
5	'Amit'	'Patel'		18000	3
6	'Abdul'	'Kalam'	'abdul@test.com'	25000	2

Department Table

DeptId	Name
1	'Finance'
2	'HR'

Inner join

LEXICON

Example:

```
SELECT Employee.EmpId, Employee.FirstName, Employee.LastName,
Department.Name FROM Employee INNER JOIN Department ON Employee.DeptId =
Department.DeptId;
```

Employee Table

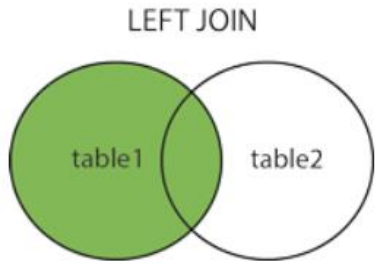
EmpId	FirstName	LastName	Name
1	'John'	'King'	'Finance'
3	'Neena'	'Kochhar'	'HR'
4	'Lex'	'De Haan'	'Finance'
6	'Abdul'	'Kalam'	'HR'

Left join

LEXICON

Syntax:

```
SELECT column_name(s) FROM table1 LEFT JOIN table2 ON table1.column_name =
table2.column_name;
```



Employee Table

EmpId	FirstName	LastName	Email	Salary	DeptId
1	'John'	'King'	'john.king@abc.com'	33000	1
2	'James'	'Bond'			
3	'Neena'	'Kochhar'	'neena@test.com'	17000	2
4	'Lex'	'De Haan'	'lex@test.com'	15000	1
5	'Amit'	'Patel'		18000	4
6	'Abdul'	'Kalam'	'abdul@test.com'	25000	2

Department Table

DeptId	Name
1	'Finance'
2	'HR'
3	'Sales'

Left join

LEXICON

Example:

```
SELECT emp.empid, emp.FirstName, dept.DeptId, dept.Name FROM Employee emp
LEFT JOIN Department dept ON emp.DeptId = dept.DeptId;
```

EmpId	FirstName	DeptId	Name
1	'John'	1	'Finance'
2	'James'	NULL	NULL
3	'Neena'	2	'HR'
4	'Lex'	1	'Finance'
5	'Amit'	NULL	NULL
6	'Abdul'	2	'HR'

Left join

LEXICON

Example:

```
SELECT emp.empid, emp.FirstName, dept.DeptId, dept.Name FROM Department dept
LEFT JOIN Employee emp ON dept.DeptId = emp.DeptId;
```

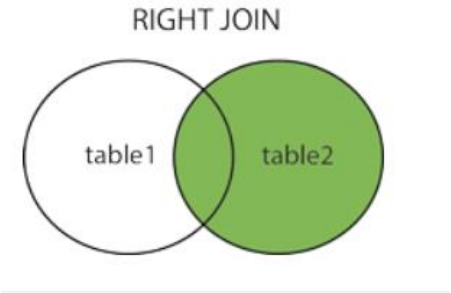
EmpId	FirstName	DeptId	Name
1	'John'	1	'Finance'
4	'Lex'	1	'Finance'
3	'Neena'	2	'HR'
6	'Abdul'	2	'HR'
NULL	NULL	3	'Sales'

Right join

LEXICON

Syntax:

```
SELECT column_name(s) FROM table1 RIGHT JOIN table2 ON table1.column_name =
table2.column_name;
```



Employee Table

EmpId	FirstName	LastName	Email	Salary	DeptId
1	'John'	'King'	'john.king@abc.com'	33000	1
2	'James'	'Bond'			
3	'Neena'	'Kochhar'	'neena@test.com'	17000	2
4	'Lex'	'De Haan'	'lex@test.com'	15000	1
5	'Amit'	'Patel'		18000	4
6	'Abdul'	'Kalam'	'abdul@test.com'	25000	2

Department Table

DeptId	Name
1	'Finance'
2	'HR'
3	'Sales'

Right join

LEXICON

Example:

```
SELECT dept.DeptId, dept.Name, emp.empid, emp.FirstName FROM Employee emp
RIGHT JOIN Department dept ON emp.DeptId = dept.DeptId;
```

DeptId	Name	EmpId	FirstName
1	'Finance'	1	'John'
1	'Finance'	4	'Lex'
2	'HR'	3	'Neena'
2	'HR'	6	'Abdul'
3	'Sales'	NULL	NULL

Right join

LEXICON

Example:

```
SELECT emp.empid, emp.FirstName, dept.DeptId, dept.Name FROM Department dept
RIGHT JOIN Employee emp ON dept.DeptId = emp.DeptId;
```

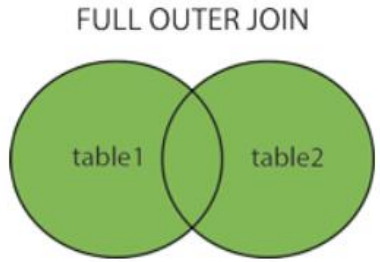
EmpId	FirstName	DeptId	Name
1	'John'	1	'Finance'
2	'James'	NULL	NULL
3	'Neena'	2	'HR'
4	'Lex'	1	'Finance'
5	'Amit'	NULL	NULL
6	'Abdul'	2	'HR'

Full join

LEXICON

Syntax:

```
SELECT column_name(s) FROM table1 FULL OUTER JOIN table2 ON
table1.column_name = table2.column_name;
```



Employee Table

EmpId	FirstName	LastName	Email	Salary	DeptId
1	'John'	'King'	'john.king@abc.com'	33000	1
2	'James'	'Bond'			
3	'Neena'	'Kochhar'	'neena@test.com'	17000	2
4	'Lex'	'De Haan'	'lex@test.com'	15000	1
5	'Amit'	'Patel'		18000	4
6	'Abdul'	'Kalam'	'abdul@test.com'	25000	2

Department Table

DeptId	Name
1	'Finance'
2	'HR'
3	'Sales'

Full join

LEXICON

Example:

```
SELECT dept.DeptId, dept.Name,emp.EmpId, emp.FirstName FROM Employee emp
FULL JOIN Department dept ON emp.DeptId = dept.DeptId;
```

DeptId	Name	EmpId	FirstName
1	'John'	1	'Finance'
2	'James'	NULL	NULL
3	'Neena'	2	'HR'
4	'Lex'	1	'Finance'
5	'Amit'	NULL	NULL
6	'Abdul'	2	'HR'
NULL	NULL	3	'Sales'

Full join

LEXICON

Example:

```
SELECT emp.EmpId, emp.FirstName, dept.DeptId, dept.Name FROM Department dept
FULL JOIN Employee emp ON emp.DeptId = dept.DeptId;
```

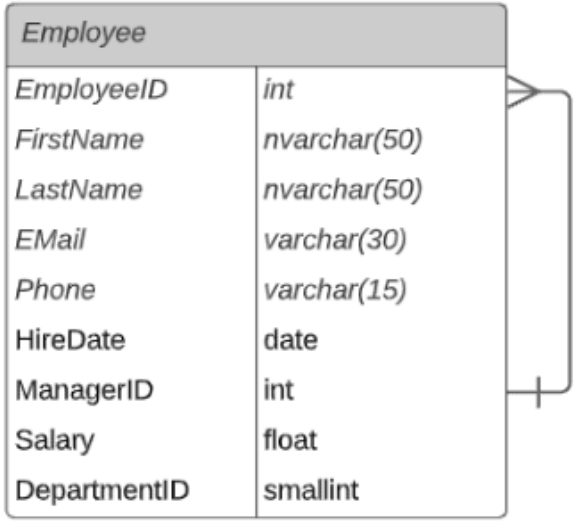
EmpId	FirstName	DeptId	Name
1	'John'	1	'Finance'
4	'Lex'	1	'Finance'
3	'Neena'	2	'HR'
6	'Abdul'	2	'HR'
NULL	NULL	3	'Sales'
2	'James'	NULL	NULL
5	'Amit'	NULL	NULL

Self join

LEXICON

Syntax:

```
SELECT a.column1, b.column2 FROM table1 a, table1 b WHERE condition;
```



Results | Messages

	EmployeeID	FirstName	LastName	EMail	Phone	HireDate	ManagerID	Salary	DepartmentID
1	1	John	King	john.king@abc.com	123.123.1834	2010-01-04	NULL	95000	10
2	2	James	Bond	Jbond22@abc.com	123.564.7878	2015-05-01	1	55000	60
3	6	Yangya	Choi	Ychoi@xxx.com	6657890980	2018-09-10	2	44000	20
4	7	Robert	Hall	RH@abc.com	4099998979	2009-12-10	1	50000	60
5	8	Anika	Johnson	ani@abc.com	2223454456	2016-01-09	1	32000	60
6	9	Calvin	Hobb	cal@xxx.com	8897896754	2019-02-07	2	36000	20
7	10	Charity	Troy	Ctroy@xxx.com	77766655545	2010-10-10	1	70000	10
8	11	Mino	Kay	Kay26@aaa.com	9999996789	2007-06-01	7	30000	10
9	12	Jeff	Scott	JC556@xxx.com	3356759089	2016-02-01	10	40000	10
10	13	Aparna	Rai	Ar345@abc.com	2223456789	2015-01-01	10	45000	10
11	14	Mike	Kennedy	MK09@aaa.com	5554678952	2014-09-08	7	35000	20
12	16	Shaun	Mark	SMark@abc.com	125678453	2019-01-07	2	200000	10
13	17	Manisha	Dutt	MD456@abc.com	6799878453	2015-11-07	5	50000	20

Self join

LEXICON

Example:

```
SELECT emp.FirstName + ',' + emp.LastName as Employee,
mgr.FirstName + ',' + mgr.LastName as Manager
FROM Employee emp INNER JOIN Employee mgr ON emp.ManagerID = mgr.EmployeeID;
```

	Employee	Manager
1	James,Bond	John,King
2	Yangya,Choi	James,Bond
3	Robert,Hall	John,King
4	Anika,Johnson	John,King
5	Calvin,Hobb	James,Bond
6	Charity,Troy	John,King
7	Mino,Kay	Robert,Hall
8	Jeff,Scott	Charity,Troy
9	Aparna,Rai	Charity,Troy
10	Mike,Kennedy	Robert,Hall
11	Shaun,Mark	James,Bond