Harmony IT Solution

Database Design and Programming

Tahaluf Training Center 2022

Harmony IT Solution

1. Display data from multiple table
2. INNER JOIN
3. LEFT OUTER
4. RIGHT OUTER JOIN
5. FULL OUTER JOIN
6. Queries

Display data from multiple table

- The related tables of a large database are linked using **foreign** and **primary** keys or what are often referred to as common columns.

- The ability to join tables will enable you to add more meaning to the result table that is produced.

- For '**n**' number tables to be joined in a query**,** **minimum (n-1)** join conditions are necessary.

- Based on the join conditions, **Oracle** combines the matching pair of rows and displays the one which satisfies the join condition.

Joins are classified as below:

1. **INNER JOIN** (or sometimes called simple join)
2. **LEFT OUTER JOIN** (or sometimes called LEFT JOIN)
3. **RIGHT OUTER JOIN** (or sometimes called RIGHT JOIN)
4. **FULL OUTER JOIN** (or sometimes called FULL JOIN)

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INNER JOIN

- The **INNER join** is such a join when equijoins and **non equijoins** are performed, rows from the source and target tables are matched using a join condition formulated with equality and inequality operators, respectively. These are referred to as inner joins.

```
SELECT table1.column, table2.column
FROM table1
INNER JOIN table2
ON table1.column_name = table2.column_name
```

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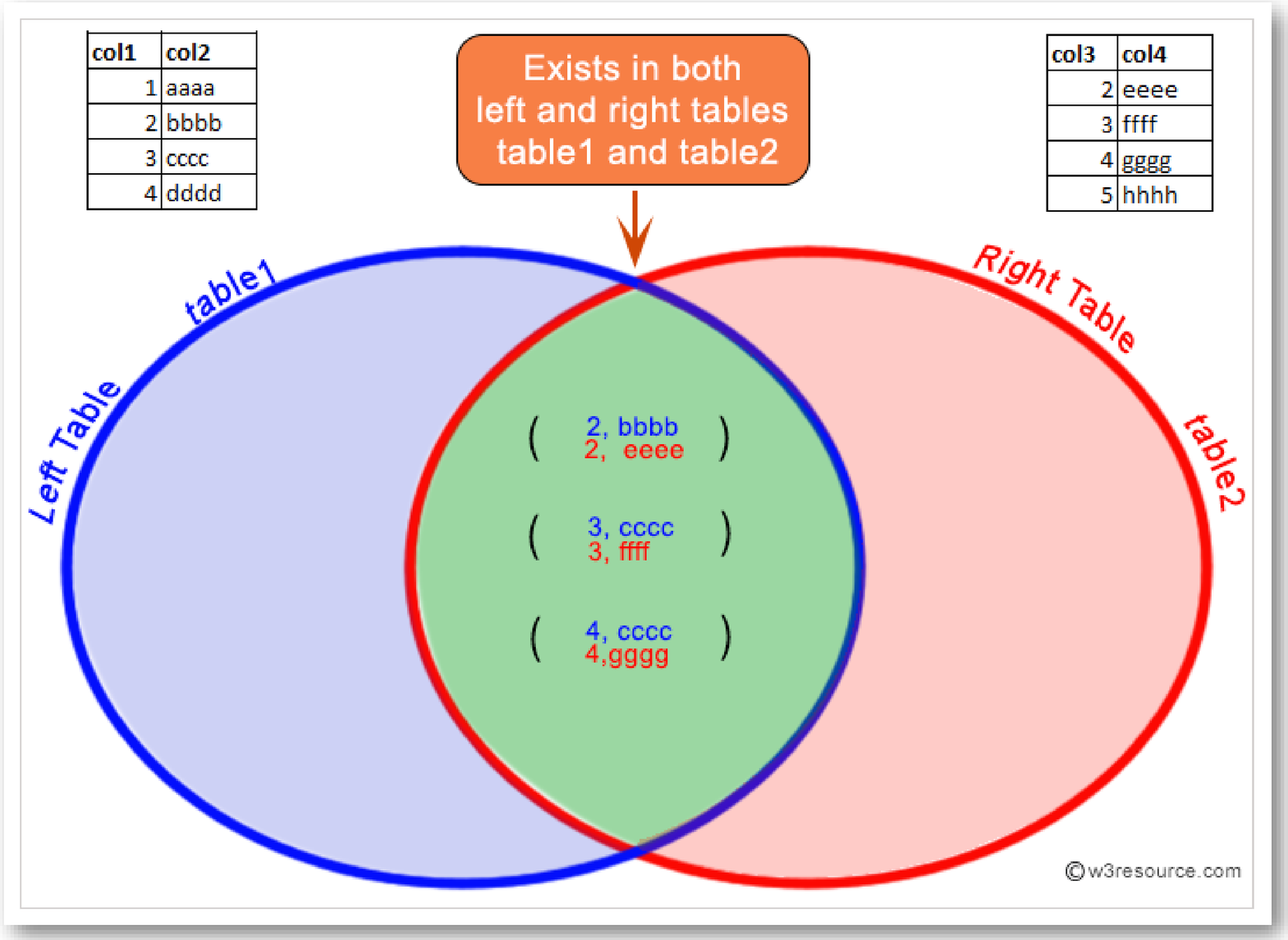

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Create The Following Tables :

Employee

ID	NAME	EMAIL	DEPARTMENTID	SALARY
1	mutaz	mutaz@gmail.com	3	1010
2	alii	ali@gmail.com	1	2000
3	ahmad	ahmad@gmail.com	2	1500
4	Alii	sami@gmail.com	1	3000
5	sami	alaa@gmail.com	2	(null)

Department

DEPARTMENTID	DEPARTMENTNAME	DEPARTMENTLOCATION
2	Cis	Aiman
3	CPE	Shariah
1	CS	Dubai

Inner Join

1

```
select Employee.name,department.departmentname
from Employee
inner join Department
on employee.id=department.departmentid;
```

2

```
select e.name,d.departmentname
from Employee e
inner join Department d
on e.id=d.departmentid;
```

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LEFT OUTER

- A **LEFT OUTER** JOIN It returns all rows from the **table A** as well as the unmatched rows from the **table B**. For all rows in A that have no matching rows in B, Oracle Database returns null for any select list expressions containing columns of B.

```
SELECT table1.column, table2.column
FROM table1
LEFT OUTER JOIN table2
ON (table1.column = table2.column);
```

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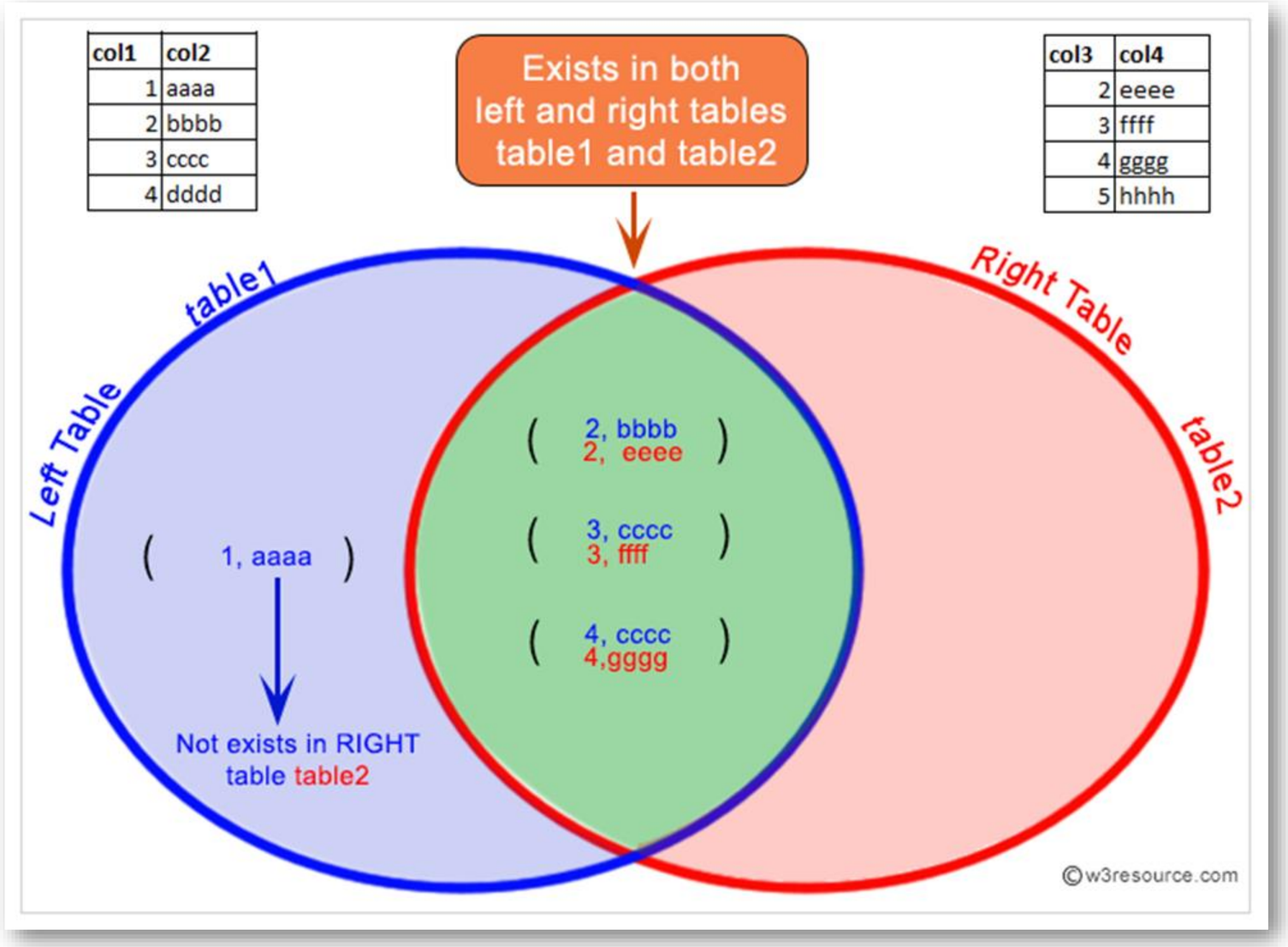

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2	alii	ali@gmail.com	1	2000
3	ahmad	ahmad@gmail.com	2	1500
4	Alva	sami@gmail.com	1	3000
5	sami	alaa@gmail.com	(null)	(null)
6	feras	ferass	1	2000
7	saif	sai@gmail.com	(null)	50002

Department

	DEPARTMENTID	DEPARTMENTNAME	DEPARTMENTLOCATION
1	2	Cis	Aiman
2	3	CPE	Shariah
3	4	HR	iordan
4	5	AI	Al ain
5	1	CS	Dubai

Left Join

1

```
select e.name,d.departmentname
from employee e
left outer join department d
on e.departmentid=d.departmentid;
```

RIGHT OUTER JOIN

- A **RIGHT OUTER** JOIN It returns all rows from the **table B** as well as the unmatched rows from the **table A**. For all rows in B that have no matching rows in A, Oracle Database returns null for any select list expressions containing columns of A.

```
SELECT table1.column, table2.column
FROM table1
RIGHT OUTER JOIN table2
ON (table1.column = table2.column);
```

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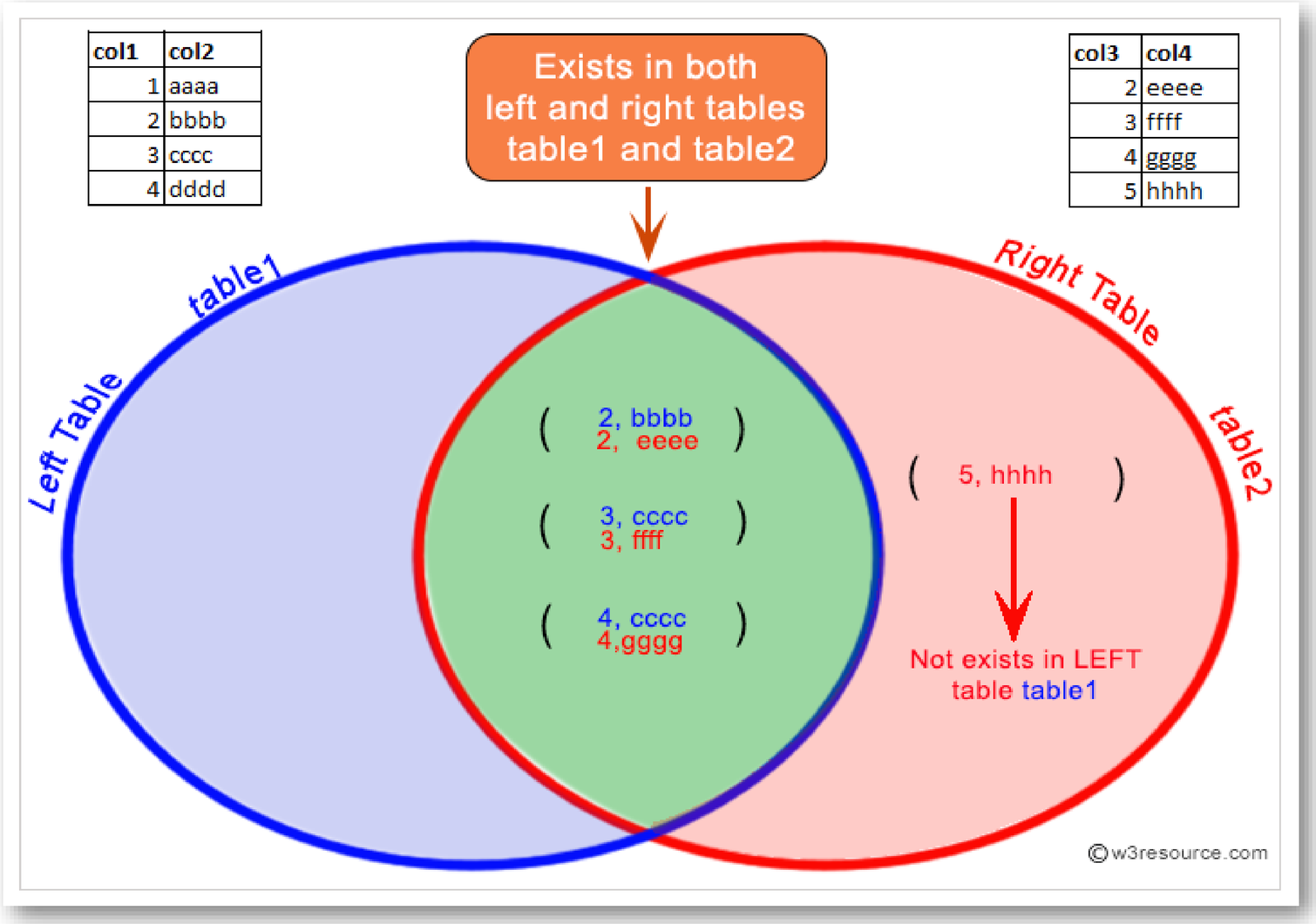

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5	sami	alaa@gmail.com	(null)	(null)
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	DEPARTMENTID	DEPARTMENTNAME	DEPARTMENTLOCATION
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4	5	AI	Al ain
5	1	CS	Dubai

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Right Join

1

```
select e.name,d.departmentname
from employee e
Right outer join department d
on e.departmentid=d.departmentid;
```

2

```
select e.name,d.departmentname
from employee e
Right outer join department d
on e.departmentid=d.departmentid
where d.departmentname like 'C%';
```

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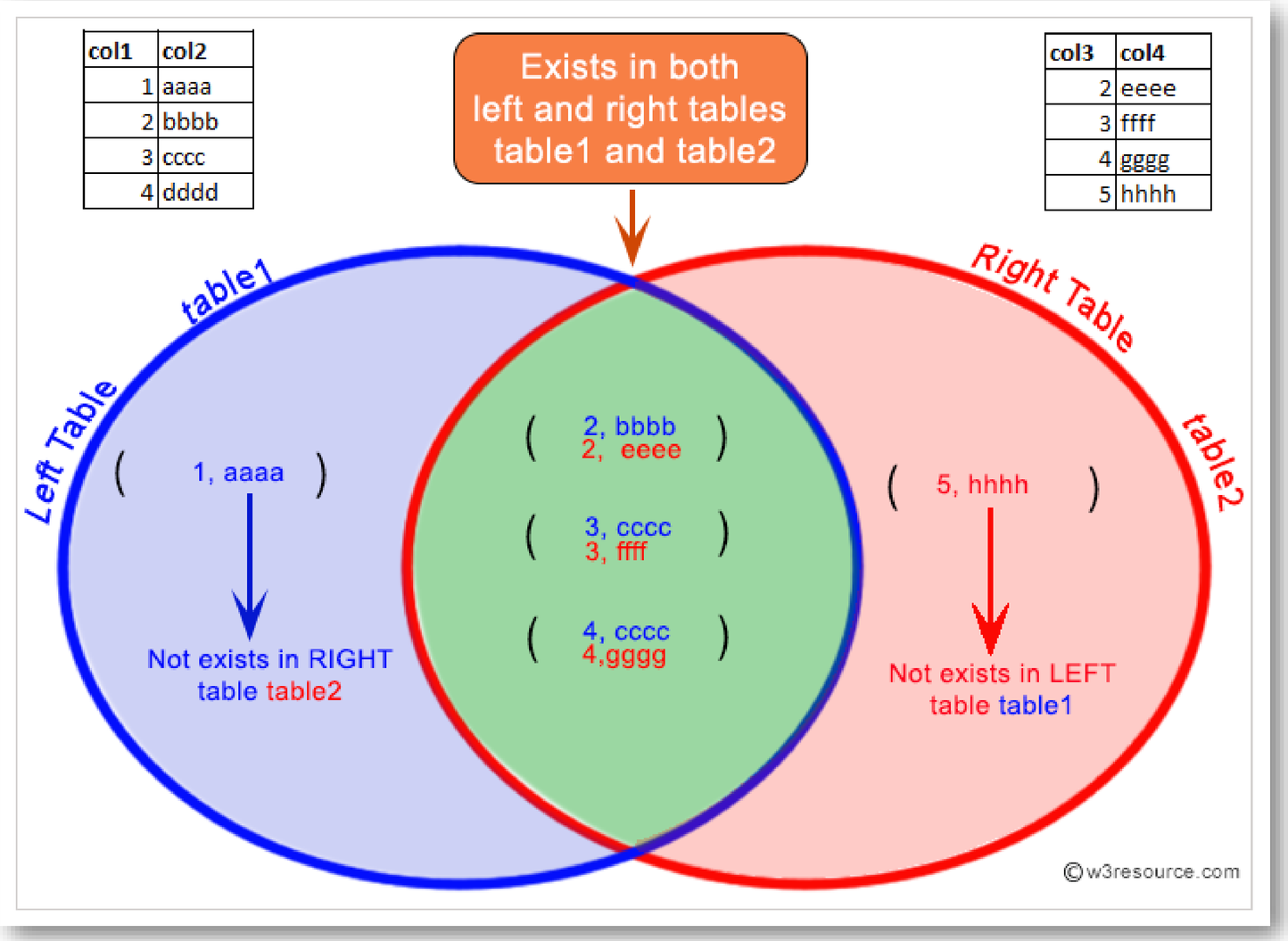
FULL OUTER JOIN

- A **full outer join** performs a join between two tables that returns the results of an INNER join as well as the results of a left and right outer join.

```
SELECT table1.column, table2.column
FROM table1
FULL OUTER JOIN table2
ON (table1.column = table2.column);
```



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5	1	CS	Dubai

Full Join

1

```
select e.name,d.departmentname
from employee e
full outer join department d
on e.departmentid=d.departmentid;
```

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Queries

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Q1: Write a SQL query to display the item name, price, and company name of all the products.

Table 1

Sample table: company_mast

COM_ID	COM_NAME
11	Samsung
12	iBall
13	Epsion
14	Zebronics
15	Asus
16	Frontech

Table 2

Sample table: item_mast

PRO_ID	PRO_NAME	PRO_PRICE	PRO_COM
101	Mother Board	3200.00	15
102	Key Board	450.00	16
103	ZIP drive	250.00	14
104	Speaker	550.00	16
105	Monitor	5000.00	11
106	DVD drive	900.00	12
107	CD drive	800.00	12
108	Printer	2600.00	13
109	Refill cartridge	350.00	13

Solution:

```
SELECT item_mast.pro_name, pro_price, company_mast.com_name
FROM item_mast
INNER JOIN
company_mast ON item_mast.pro_com = company_mast.com_id;
```

Q2: Retrieve all the matching rows in the departments table, and employees table, and those rows from employees table even if there is no match in the departments table.

Use The Same Tables that we create before ☺

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