Database

Tahaluf Training Center 2021

Day 3

1. **Display data from multiple table**
2. Inner Join
3. Left Join
4. Right Join
5. Full Join
6. Self Join
7. Union

INNER JOIN (or sometimes called simple join)

LEFT OUTER JOIN (or sometimes called LEFT JOIN)

RIGHT OUTER JOIN (or sometimes called RIGHT JOIN)

FULL OUTER JOIN (or sometimes called FULL JOIN)

Self Join

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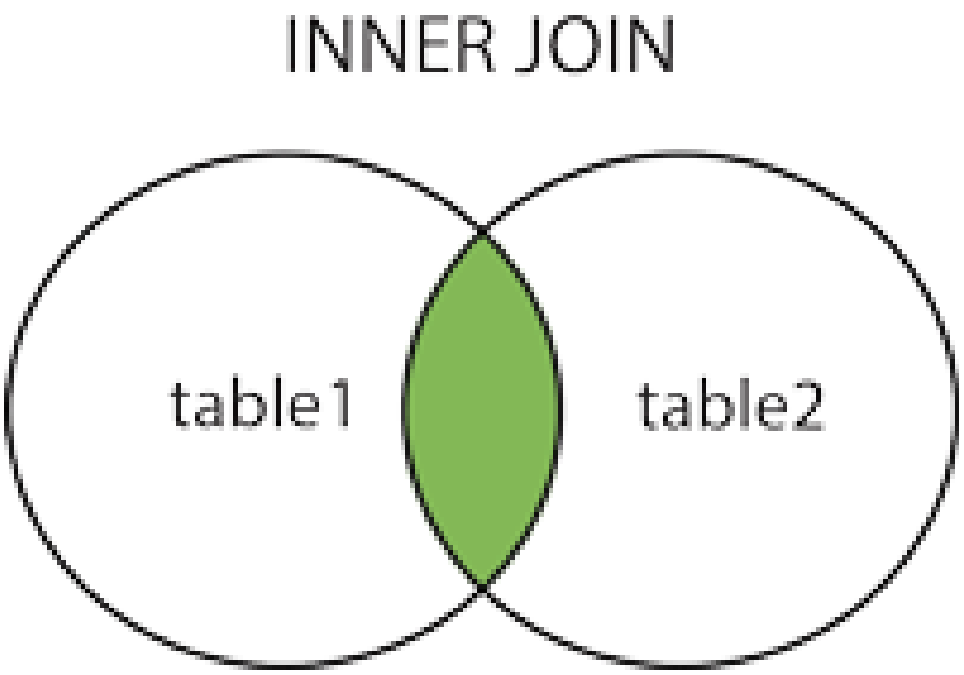
A JOIN clause is used to combine rows from two or more tables, based on a related column between them.

INNER JOIN (or sometimes called simple join):
Returns records that have matching values in both tables



INNER JOIN


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

SELECT
E.BusinessEntityID,
E.NationalIDNumber,
E.JobTitle,
EDH.DepartmentID,
EDH.StartDate,
EDH.EndDate
FROM HumanResources.Employee E
INNER JOIN
HumanResources.EmployeeDepartmentH
istory EDH
ON E.BusinessEntityID =
EDH.BusinessEntityID
```

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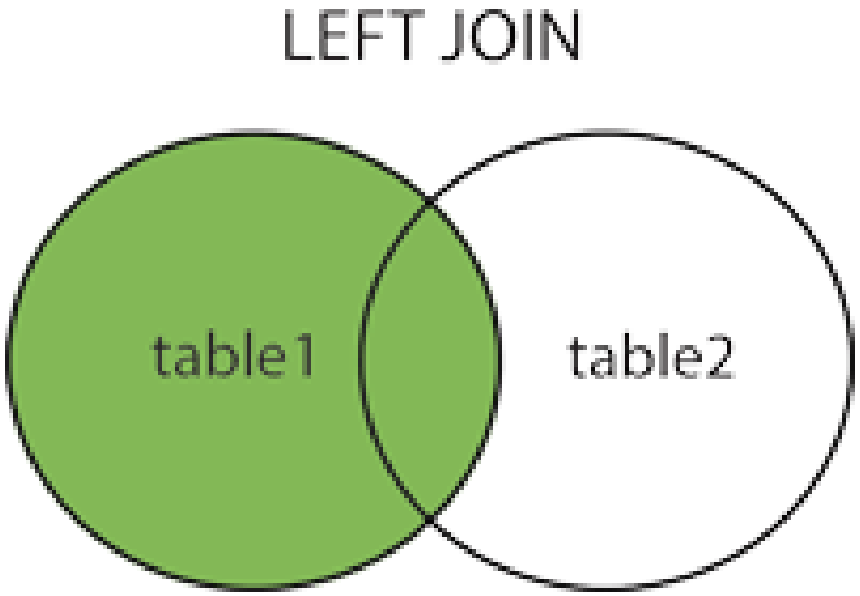
LEFT (OUTER) JOIN:

Returns all records from the left table, and the matched records from the right table



Note: The LEFT JOIN keyword returns all records from the left table (table1), even if there are no matches in the right table (table2).

LEFT JOIN


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

```
SELECT
SP.BusinessEntityID,
SP.SalesYTD,
ST.Name AS [Territory Name]
FROM Sales.SalesPerson SP
LEFT OUTER JOIN
Sales.SalesTerritory ST
ON ST.TerritoryID = SP.TerritoryID
```

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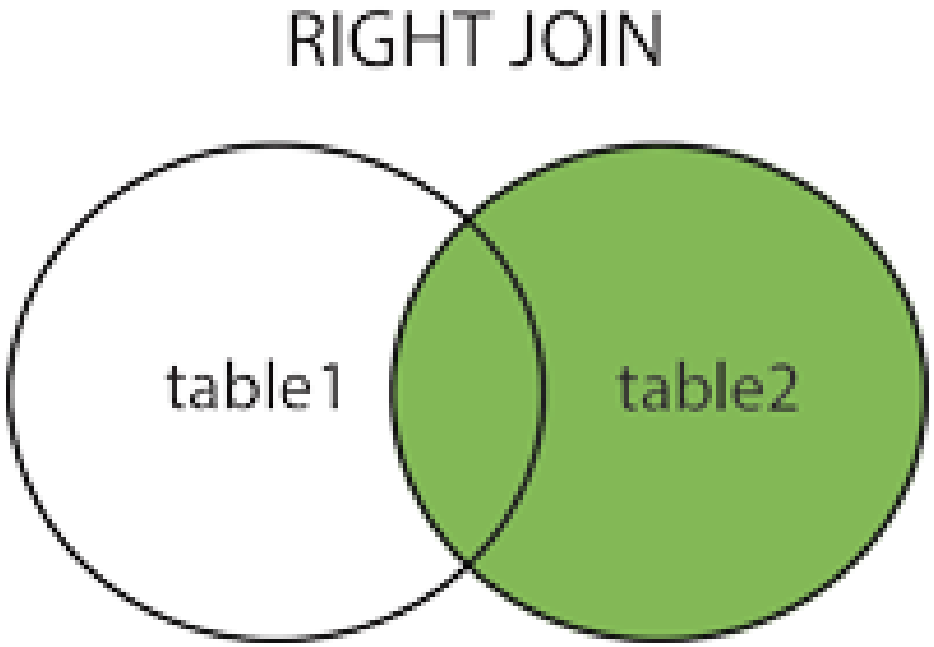
RIGHT (OUTER) JOIN:
Returns all records from the right table, and the matched records from the left table



Note: The RIGHT JOIN keyword returns all records from the right table (table2), even if there are no matches in the left table (table1).

RIGHT JOIN


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

```
SELECT
P.Name
FROM Production.ProductReview pr
RIGHT OUTER JOIN
Production.Product p ON
pr.ProductID = p.ProductID
WHERE pr.ProductReviewID IS NULL
```

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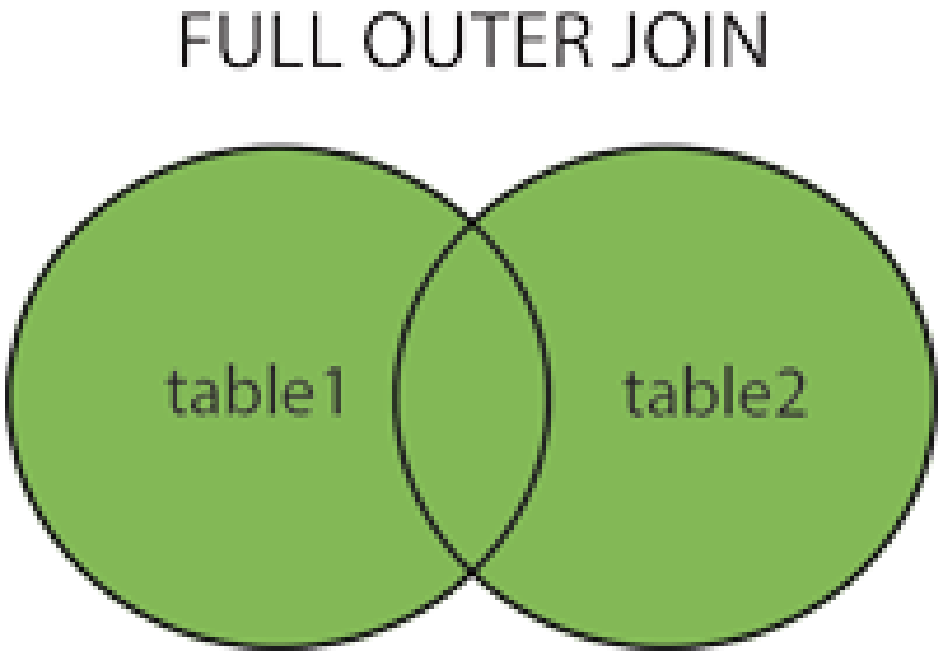
FULL (OUTER) JOIN: Returns all records when there is a match in either left or right table



Note that the FULL JOIN can produce a huge result set from large tables. So, use it only when you need it only.

FULL (OUTER) JOIN


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

FULL (OUTER) JOIN

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```
SELECT
 P.FirstName
,P.MiddleName
,P.LastName
,a.AddressLine1
,a.AddressLine2
,a.City
,adt.Name AS AddressType
FROM Person.Person p
FULL JOIN Person.BusinessEntityAddress bea
ON P.BusinessEntityID = bea.BusinessEntityID
FULL JOIN Person.Address a ON bea.AddressID
= a.AddressID
FULL JOIN person.AddressType adt ON
bea.AddressTypeID = adt.AddressTypeID
```

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SELF JOIN


```
SELECT column_name(s)
FROM table1 T1, table1 T2
WHERE condition;
```

```
Use CarsShopDB
SELECT *
FROM Employees
JOIN Employees Manager
ON Manager.ManagerId = Employees.ManagerID
```

```
Use CarsShopDB
SELECT *
FROM Employees
where ManagerId is null
```

SELF JOIN

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```
SELECT column_name(s)
FROM table1 T1, table1 T2
WHERE condition;
```

```
SELECT *
FROM Employees
JOIN Employees a
ON a.Id = Employees.id
WHERE a.ManagerId IS NULL
```

```
SELECT *
FROM Employees
JOIN Employees a
ON a.Id = Employees.id
WHERE a.ManagerId = 17
```

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UNION

basic rules for combining the result sets of two queries by using **UNION**:

1. The number and the order of the columns must be the same in all queries.
2. The data types must be compatible.

The UNION operator selects only distinct values by default

```
SELECT column_name(s) FROM table1
UNION
SELECT column_name(s) FROM table2;
```

To allow duplicate values, use UNION ALL

```
SELECT column_name(s) FROM table1
UNION ALL
SELECT column_name(s) FROM table2;
```

Task for Day Three

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Create the following database and populate the tables with 5 records for each