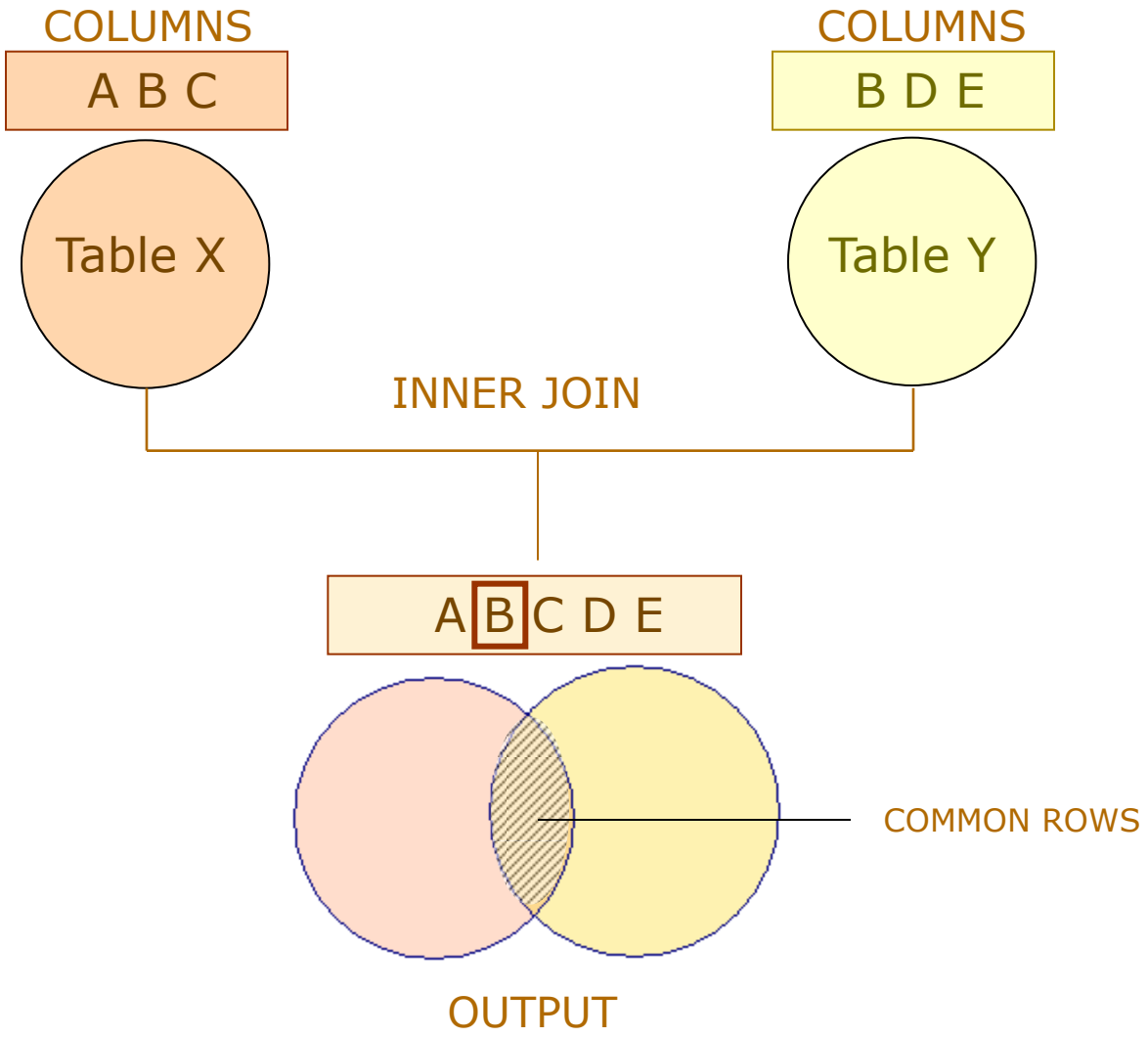
Joins

- Joins
  - Allow to retrieve data from multiple tables
  - Can be of the following types:
    - Inner join
    - Outer join
    - Cross join
    - Equi join
    - Self join

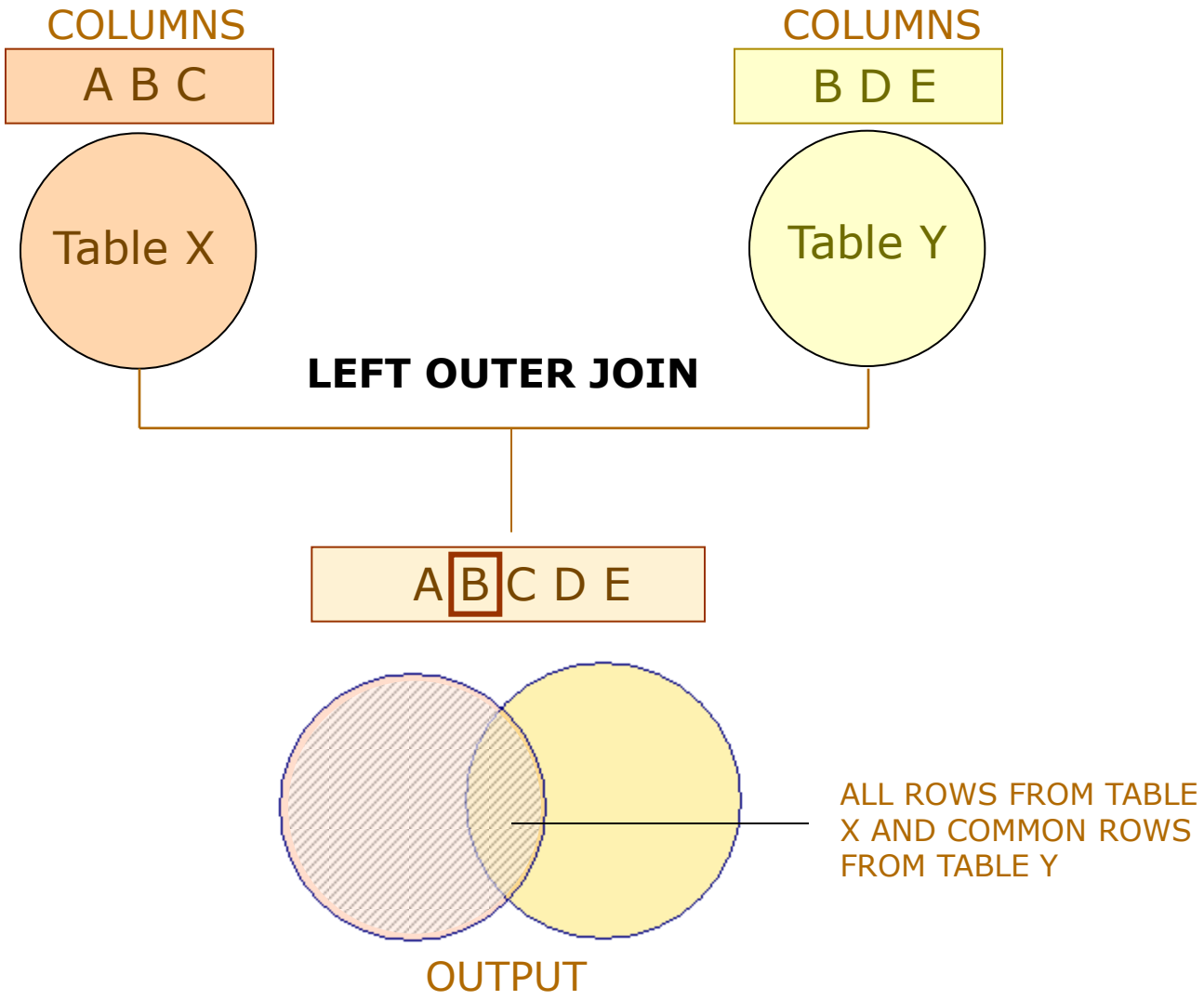
Using an Inner Join

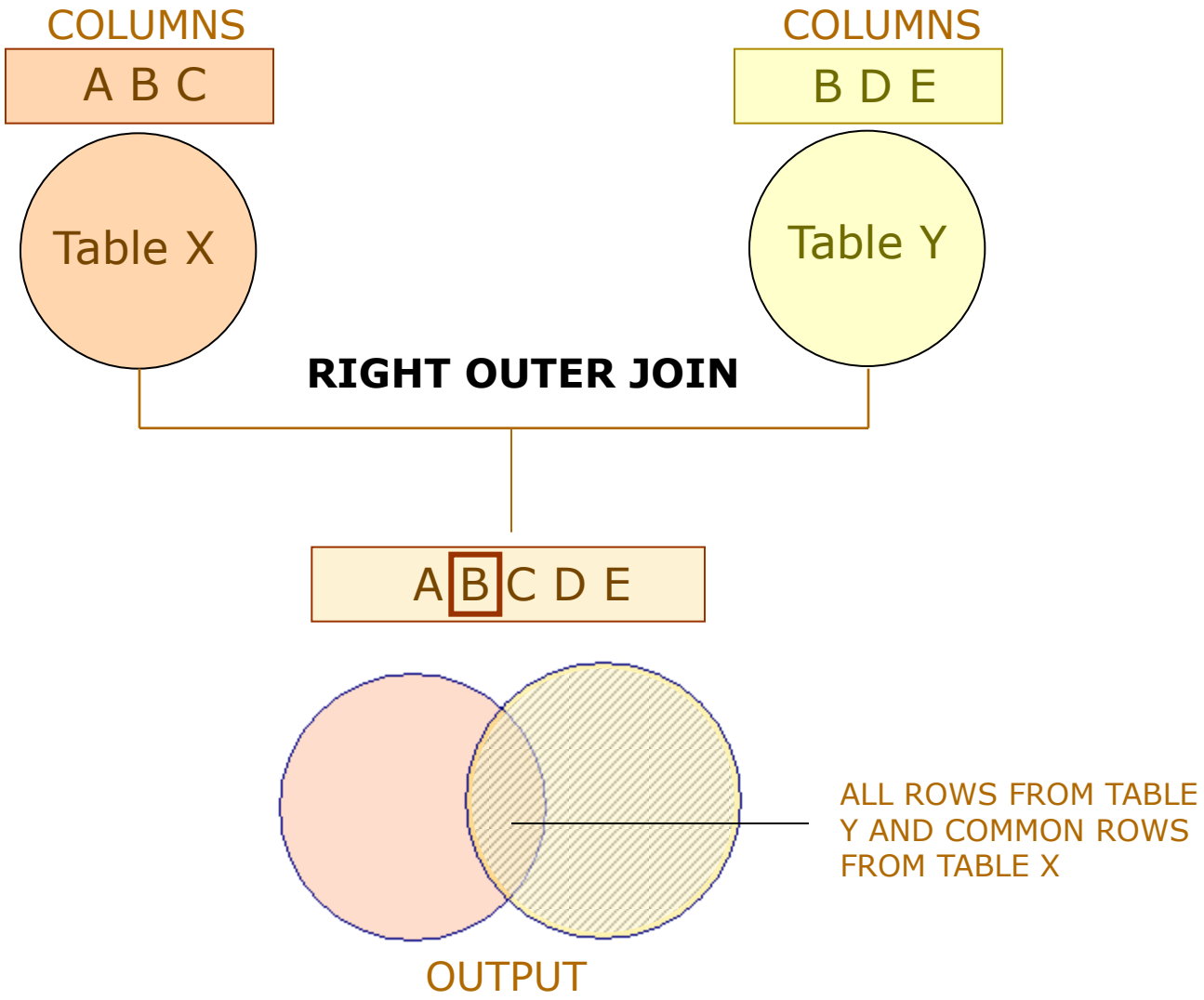


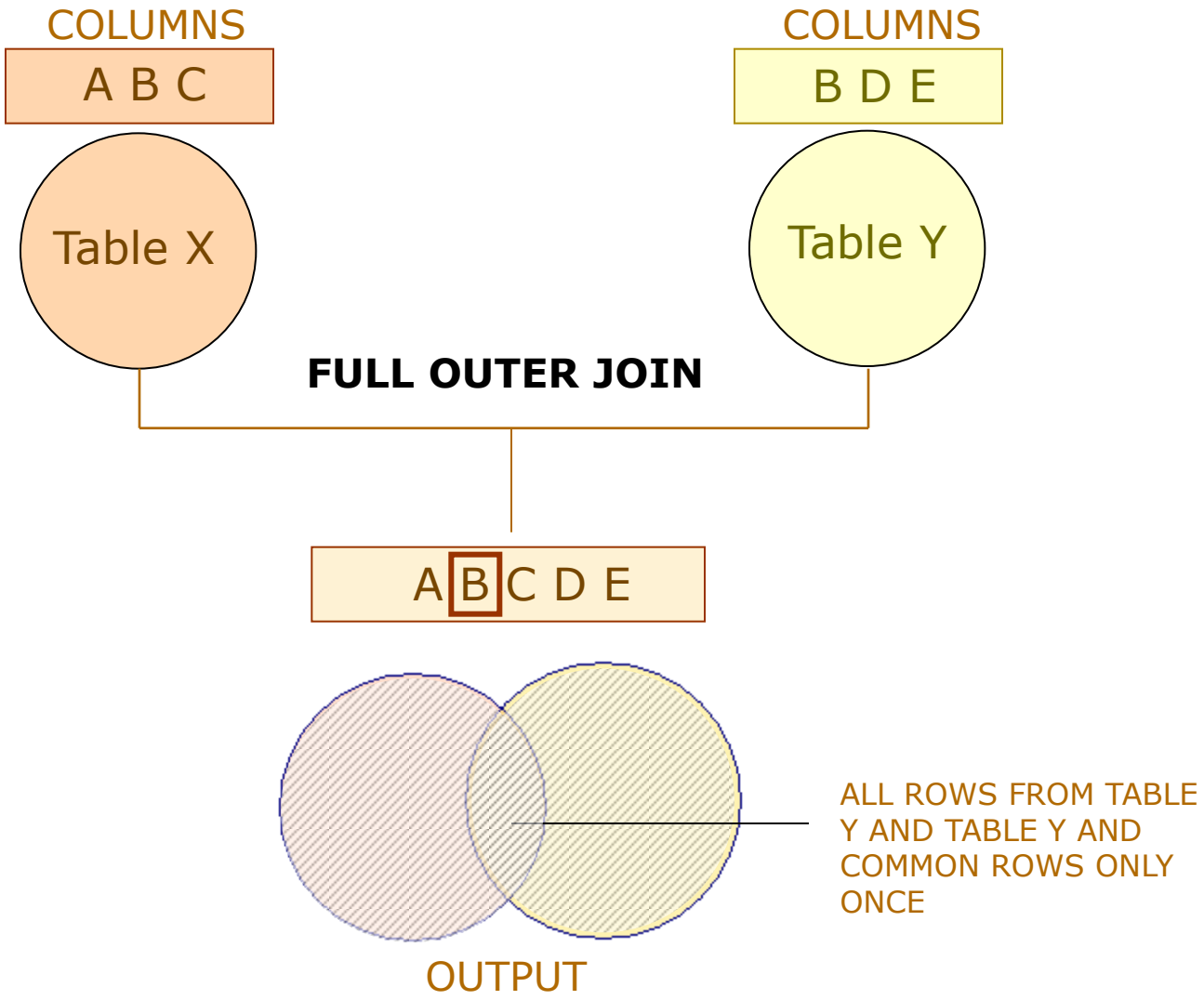
- Inner Join:
  - Retrieves data from multiple tables by using a comparison operator on a common column
  - Retrieves only those rows that satisfy the join condition

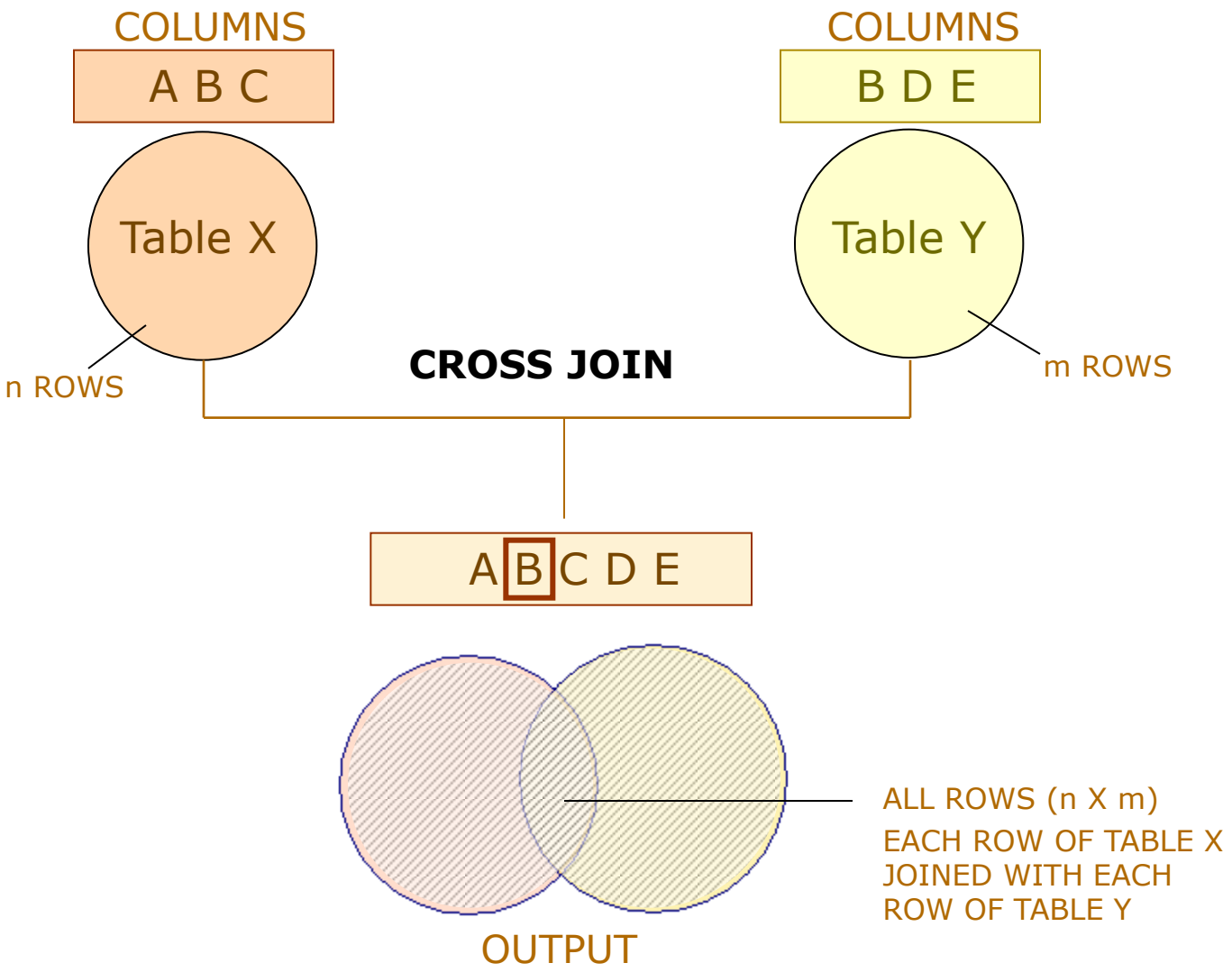
Using an Outer Join

- Outer Join:
  - Displays the result set containing all rows from one table and the matching rows from another table
  - Displays NULL for the columns of the related table where it does not find matching records
  - Is of three types:
    - Left outer join
    - Right outer join
    - Full outer join

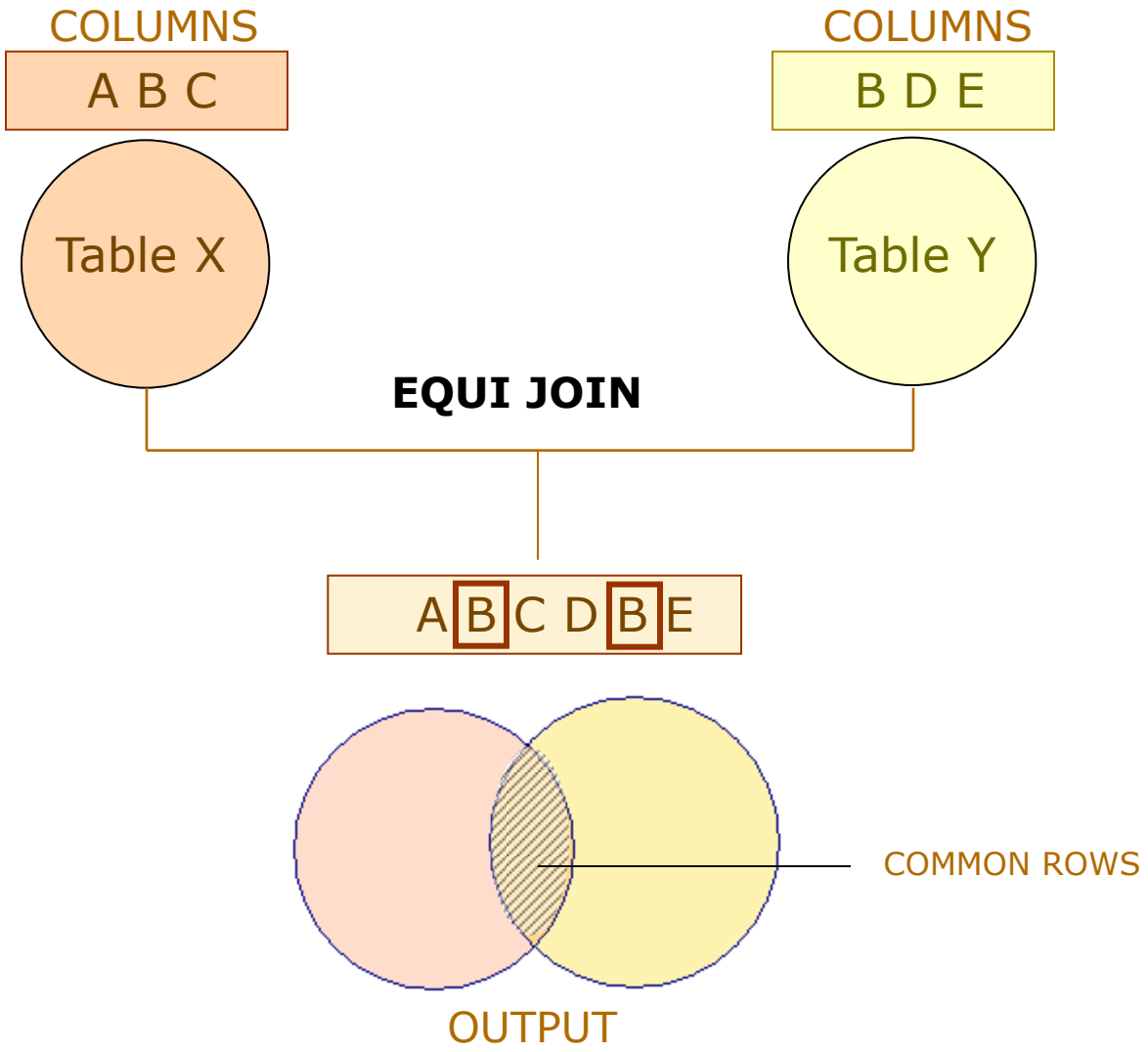

COLUMNS
A B C
COLUMNS
B D E
Table X
Table Y
LEFT OUTER JOIN
A B C D E
ALL ROWS FROM TABLE X AND COMMON ROWS FROM TABLE Y
OUTPUT


COLUMNS
A B C
COLUMNS
B D E
Table X
Table Y
RIGHT OUTER JOIN
A B C D E
ALL ROWS FROM TABLE Y AND COMMON ROWS FROM TABLE X
OUTPUT


COLUMNS
A B C
COLUMNS
B D E
Table X
Table Y
FULL OUTER JOIN
A B C D E
ALL ROWS FROM TABLE Y AND TABLE Y AND COMMON ROWS ONLY ONCE
OUTPUT


COLUMNS
A B C
COLUMNS
B D E
Table X
Table Y
n ROWS
CROSS JOIN
m ROWS
A B C D E
ALL ROWS (n X m)
EACH ROW OF TABLE X
JOINED WITH EACH
ROW OF TABLE Y
OUTPUT

- Cross Join:
  - Displays each row from the first table joined with each row from the second table
  - Produces the result set as the number of rows in the first table multiplied by the number of rows in the second table


COLUMNS
A B C
COLUMNS
B D E
Table X
Table Y
EQUI JOIN
A B C D B E
COMMON ROWS
OUTPUT

- Equi Join:
  - Is same as an inner join
  - Displays all the columns from both the tables
  - Displays redundant column data in the result set

- What is the difference between an equi and an inner join?

- Answer:
  - An equi join is used to retrieve all the columns from both the tables. An inner join is used to retrieve selected columns from tables.

Using a Self Join

- Self Join:
  - Is used when one row in a table correlates with other rows in the same table
  - Uses alias name to differentiate the two copies of the same table

Summary

- Therefore
  - Joins are used to retrieve data from multiple tables.
  - An inner join combines records from multiple tables by using a comparison operator on a common column.
  - A left outer join returns all the rows from the left table and the matching rows from the right table.
  - A right outer join returns all the rows from the right table and the matching rows from the left table.
  - A full outer join returns all the matching and non-matching rows from both the tables on which join is applied.
  - A cross join returns each row from the first table joined with each row from the second table.
  - An equi join is used to list all the columns from the joining tables.
  - A self join correlates one row in a table with other rows in the same table.

Thank You..