

SQL Avanzado

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Name	Acronym	Phone_number	Number_students
Ciencias de la Computación e Informática	ECCI	2511-8000	888
Ciencias de la Comunicación Colectiva	ECCC	2511-3600	999
Lenguas Modernas	ELM	2511 8391	NULL
Administración de Negocios	EAN	2511-9180	3000
Antropología	EAT	2511-6458	500
Matemática	EMat	2511-6551	1500

←  SELECT



Las operaciones de comparación en SQL son...

	TRUE	FALSE	UNKNOWN
TRUE	TRUE	FALSE	UNKNOWN
FALSE	FALSE	FALSE	FALSE
UNKNOWN	UNKNOWN	FALSE	UNKNOWN

Figure 1: AND truth table

	TRUE	FALSE	UNKNOWN
TRUE	TRUE	TRUE	TRUE
FALSE	TRUE	FALSE	UNKNOWN
UNKNOWN	TRUE	UNKNOWN	UNKNOWN

Figure 2: OR truth table

TRUE	FALSE
FALSE	TRUE
UNKNOWN	UNKNOWN

Figure 3: NOT truth table

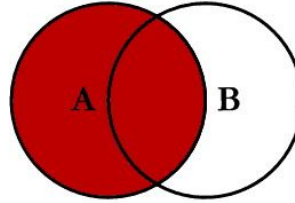


Nested query

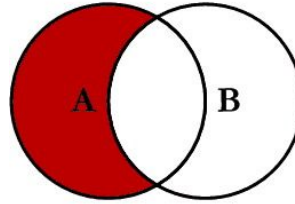
Outer →

```
SELECT NAME, CREDITS  
FROM COURSE  
WHERE ACRONYM IN (  
    SELECT ACRONYM ← Inner  
    FROM _GROUP  
    WHERE SEMESTER=1 AND YEAR = 2022  
);
```

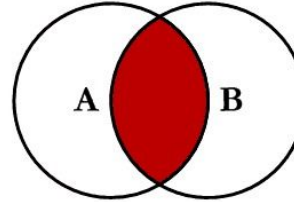
SQL JOINS



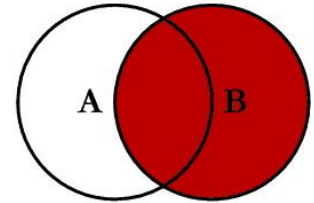
```
SELECT <select_list>
FROM TableA A
LEFT JOIN TableB B
ON A.Key = B.Key
```



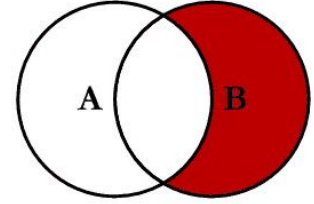
```
SELECT <select_list>
FROM TableA A
LEFT JOIN TableB B
ON A.Key = B.Key
WHERE B.Key IS NULL
```



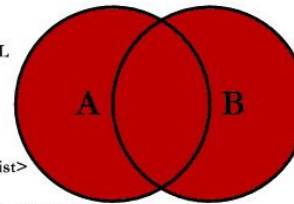
```
SELECT <select_list>
FROM TableA A
INNER JOIN TableB B
ON A.Key = B.Key
```



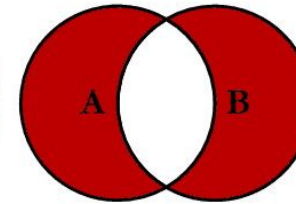
```
SELECT <select_list>
FROM TableA A
RIGHT JOIN TableB B
ON A.Key = B.Key
```



```
SELECT <select_list>
FROM TableA A
RIGHT JOIN TableB B
ON A.Key = B.Key
WHERE A.Key IS NULL
```



```
SELECT <select_list>
FROM TableA A
FULL OUTER JOIN TableB B
ON A.Key = B.Key
```

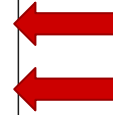


```
SELECT <select_list>
FROM TableA A
FULL OUTER JOIN TableB B
ON A.Key = B.Key
WHERE A.Key IS NULL
OR B.Key IS NULL
```

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```
SELECT <attribute list>  
FROM <table list>  
WHERE <condition>  
GROUP BY <grouping condition>  
HAVING <group condition>  
ORDER BY <attribute list>;
```





Micro
SQL Server®

```
CREATE ASSERTION POSITIVE_CREDITS  
CHECK ( NOT EXISTS ( SELECT *  
                     FROM COURSE  
                     WHERE CREDITS < 1)));
```

TRIGGERS

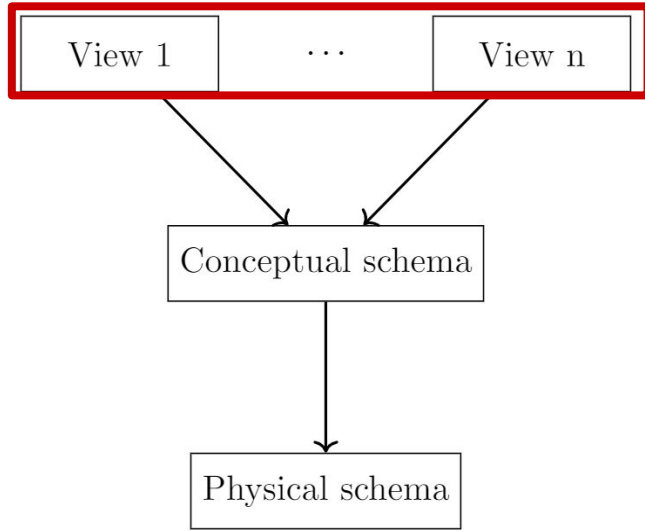
INSERTS

DELETES

UPDATES



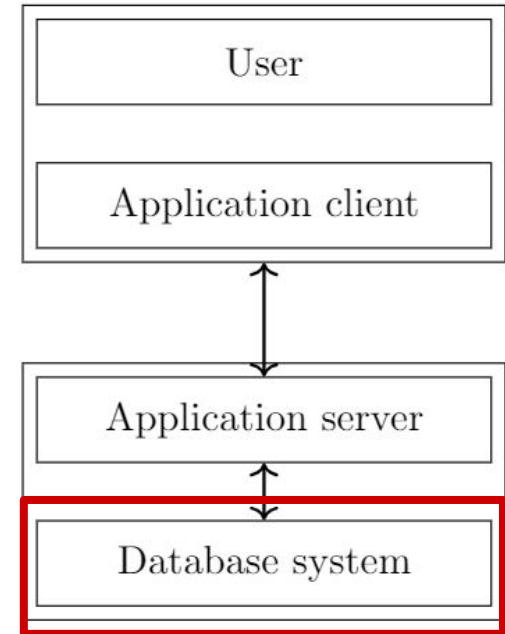
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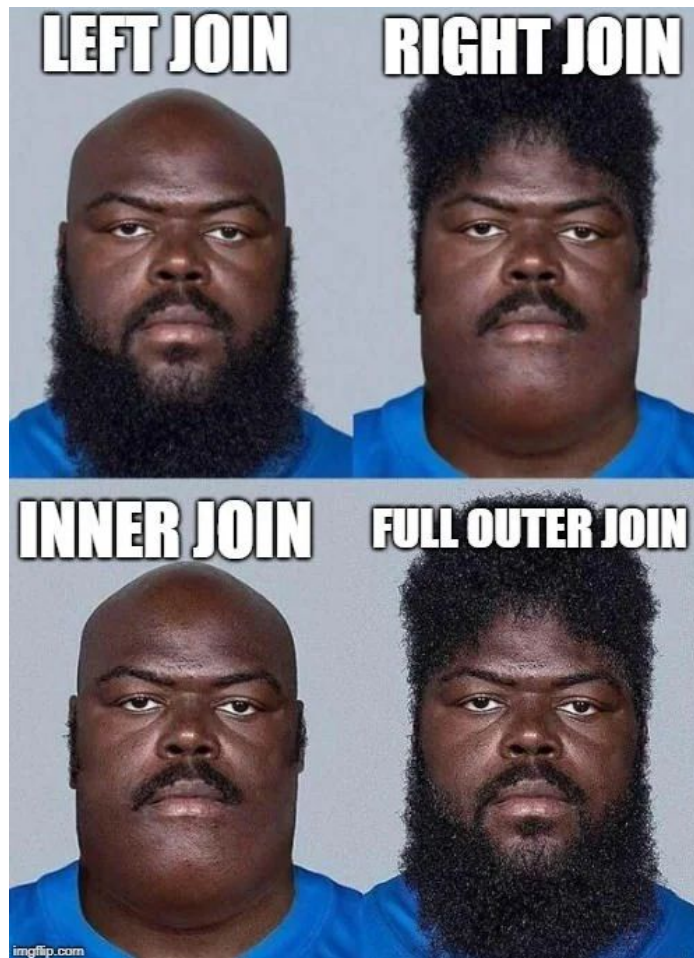


Client

Servers



Stored procedures or functions



Referencias

- R. Elmasri and S. Navathe, Fundamentals of database systems, 7th ed. Pearson, 2016, chapters 7, 10.4 and 26.1.
- Microsoft. Microsoft sql documentation. [Online]. Available: <https://docs.microsoft.com/en-us/sql>