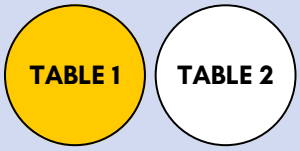
# SQL CHEATSHEET

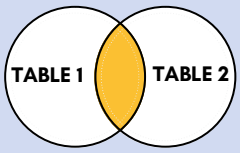
## TSQL JOIN TYPES




SELECT from two tables

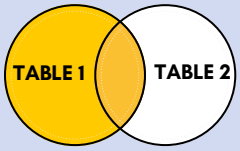
```
SELECT *
  FROM Table1;

SELECT *
  FROM Table2;
```



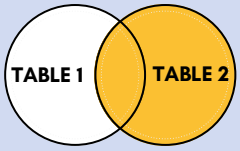

INNER JOIN

```
SELECT *
  FROM Table1 t1;
INNER JOIN Table2 t2
  ON t1. fk t2.id;
```



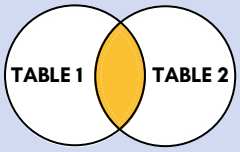

LEFT OUTER JOIN

```
SELECT *
  FROM Table1 t1;
  LEFT OUTER JOIN Table2 t2
    ON t1.fk = t2.id;
```



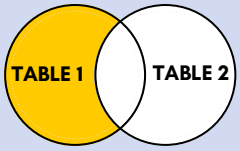

RIGHT OUTER JOIN

```
SELECT *
  FROM Table1 t1;
  RIGHT OUTER JOIN Table2 t2
    ON t1.fk tz.id;
```



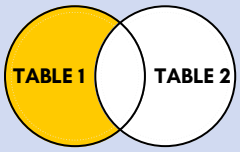

SEMI JOIN

```
SELECT *
  FROM Table1 t1;
WHERE EXISTS (SELECT 1
                FROM Table2 t2
               WHERE 11. fk t2.id
               ) ;
```



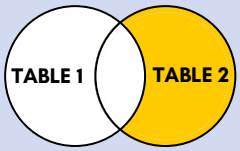

ANTI SEMI JOIN

```
SELECT *
  FROM Table1 t1;
WHERE NOT EXISTS (SELECT 1
                    FROM Table2 t2
                   WHERE t1.fk = t2.id
                   ) ;
```



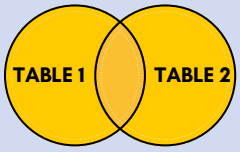

LEFT OUTER JOIN with exclusion - replacement for a NOT IN

```
SELECT *
  FROM Table1 t1;
  LEFT OUTER JOIN Table2 t2
    ON t1.fk = t2.id;
WHERE 12.id IS NULL;
```



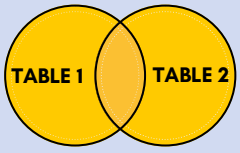

RIGHT OUTER JOIN with exclusion -replacement for a NOT IN

```
SELECT *
  FROM Table1 t1;
  RIGHT OUTER JOIN Table2 t2
    ON t1.fk tz.id;
WHERE t1.fk IS NULL;
```



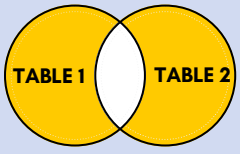

FULL OUTER JOIN

```
SELECT *
  FROM Table1 t1;
  FULL OUTER JOIN Table2 t2
    ON 11. fk t2.id;
```



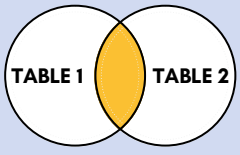

CROSS JOIN, the Cartesian product

```
SELECT *
  FROM Table1 t1;
  CROSS JOIN Table2 t2;
```




FULL OUTER JOIN with exclusion

```
SELECT *
  FROM Table1 t1;
  FULL OUTER JOIN Table2 t2
    ON 11. fk t2.id;
WHERE t1.fk IS NULL
   OR 12.id IS NULL ;
```

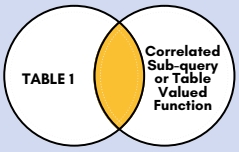



NON-EQUI INNER JOIN

```
SELECT *
  FROM Table1 t1;
INNER JOIN Tablez t2
  ON t1.fk t2.id;
```

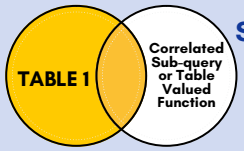
# SQL CHEATSHEET

## TSQL JOIN TYPES



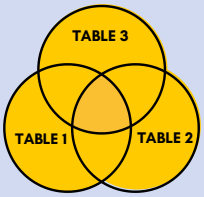

**CROSS APPLY**

```
SELECT *
  FROM Table1;
CROSS APPLY
      [dbo].[someTVF] (t1.fk)
AS t;
```



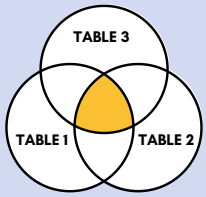

**OUTER APPLY**

```
SELECT *
  FROM Table1 t1;
OUTER APPLY
      [dbo].[someTVF] (t1.fk)
  AS t;
```



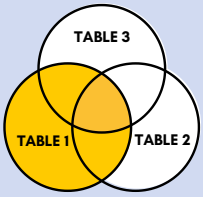

**Two FULL OUTER JOINS**

```
SELECT *
  FROM Table1 t1;
FULL OUTER JOIN Table2 t2
  ON t1.fk = t2.id
FULL OUTER JOIN Table3 t3
  ON t1.fk_table3 = t3.id;
```



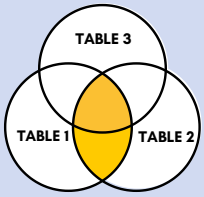

**Two INNER JOINS**

```
SELECT *
  FROM Table1 t1;
INNER JOIN Table2 t2
  ON t1.fk t2.id;
INNER JOIN Table3 t3
  ON t1.fk_table = t3.id;
```



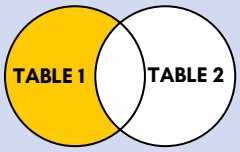

**Two LEFT OUTER JOINS**

```
SELECT *
  FROM Table1 t1;
LEFT OUTER JOIN Table2 t2
  ON t1.fk = t2.id
LEFT OUTER JOIN Table3 t3
  ON t1.fk_table3 = t3.id;
```



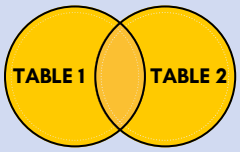

**INNER JOIN and a LEFT OUTER JOIN**

```
SELECT *
  FROM Table1 t1;
INNER JOIN Table2 t2
  ON t1.fk t2.id;
LEFT OUTER JOIN Table3 t3
  ON t1.fk_table = t3.id;
```



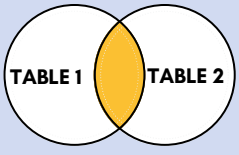

**EXCEPT**

```
SELECT fk as id
  FROM Table1
EXCEPT
SELECT ID
  FROM Table2;
```




**UNION**

```
SELECT fk as id
  FROM Table1
UNION
SELECT ID
  FROM Table2;
```




**INTERSECT**

```
SELECT fk as id
  FROM Table1
INTERSECT
SELECT ID
  FROM Table2;
```

### SAMPLE SCHEMA

**Table 1 (People)**

| id | Name | fk | fk_table3 |
|---|---|---|---|
| 1 | Steve | 1 | NULL |
| 2 | Aaron | 3 | NULL |
| 3 | Mary | 2 | NULL |
| 4 | Fred | 1 | NULL |
| 5 | Anne | 5 | NULL |
| 6 | Beth | 8 | 1 |
| 7 | Johnny | NULL | 1 |
| 8 | Karen | NULL | 2 |

**Table 2 (Favorite Colors)**

| id | FavoriteColor |
|---|---|
| 1 | red |
| 2 | green |
| 3 | blue |
| 4 | pink |
| 5 | purple |
| 6 | mauve |
| 7 | orange |
| 8 | yellow |
| 9 | indigo |

**Table 3 (Favorite Foods)**

| id | datavalue |
|---|---|
| 1 | Pizza |
| 2 | Burger |
| 3 | Sushi |

**Note**: Column names are very generic to simplify the sample queries.
Foreign keys are
Table1.fk →→ Table2.id
Table2.fk_table3-> Table3.id