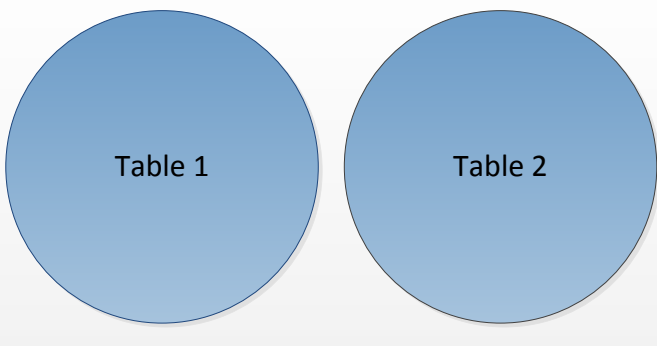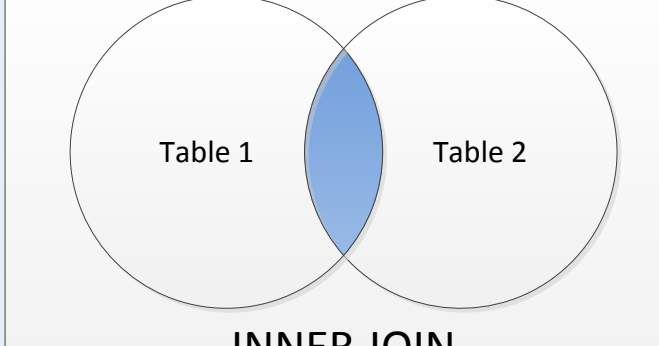# TSQL JOIN TYPES
Created by Steve Stedman

```
SELECT *
   FROM Table_1;

SELECT *
   FROM Table_2;
```
SELECT from two tables
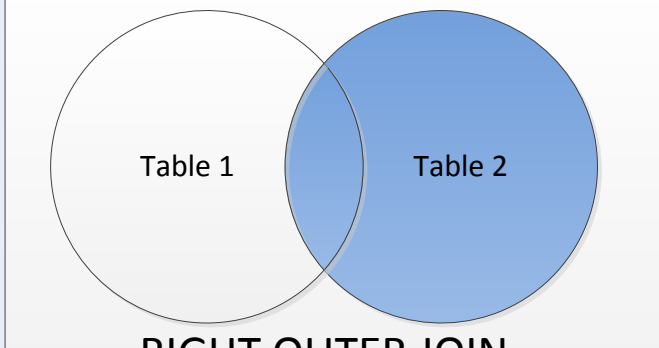
```
SELECT *
   FROM Table_1 t1
   INNER JOIN Table_2 t2
      ON t1.id = t2.fk;
```
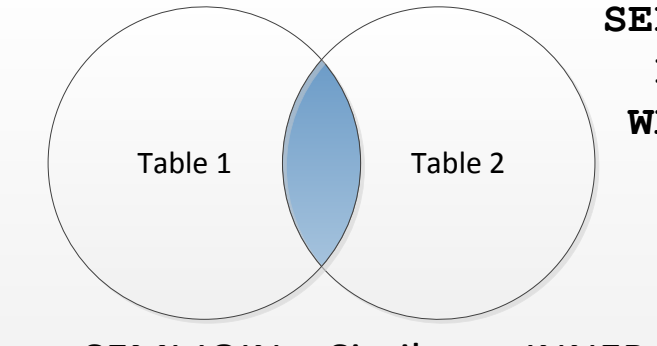INNER JOIN

```
SELECT *
   FROM Table_1 t1
   LEFT JOIN Table_2 t2
      ON t1.id = t2.fk;
```
LEFT OUTER JOIN

```
SELECT *
   FROM Table_1 t1
   RIGHT JOIN Table_2 t2
      ON t1.id = t2.fk;
```
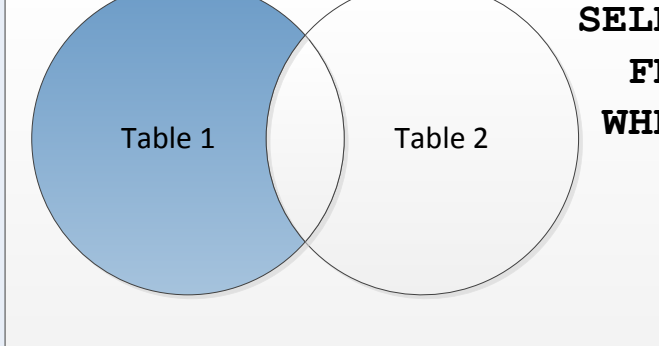RIGHT OUTER JOIN
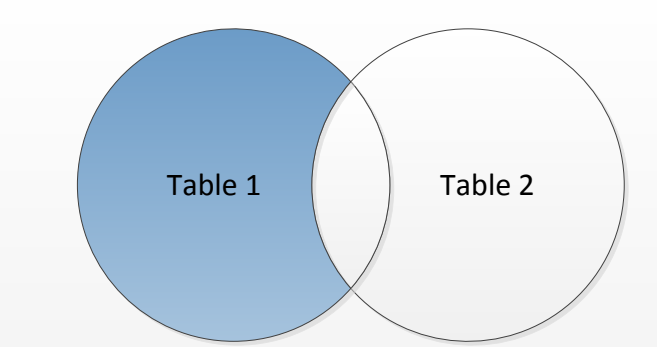
```
SELECT *
   FROM Table_1 t1
   WHERE EXISTS (SELECT 1
                   FROM Table_2 t2
                   WHERE t2.id = t1.fk
                 );
```
SEMI JOIN – Similar to INNER JOIN, with less duplication from Table 2.

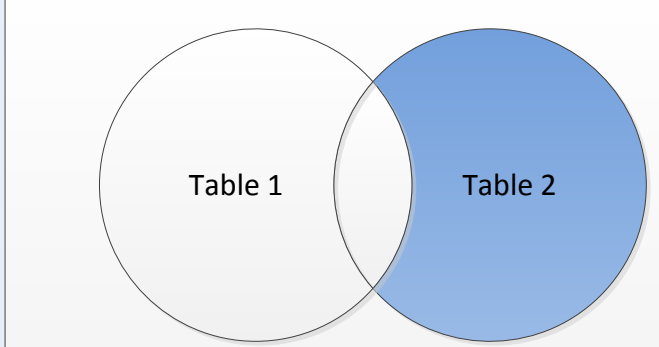```
SELECT *
   FROM Table_1 t1
   WHERE NOT EXISTS (SELECT 1
                       FROM Table_2 t2
                       WHERE t2.id = t1.fk
                     );
```
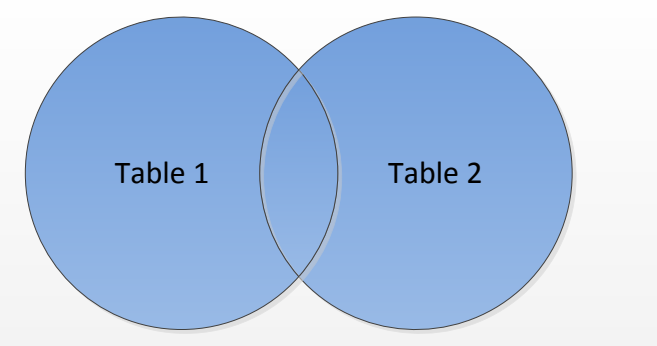ANTI SEMI JOIN

```
SELECT *
   FROM Table_1 t1
   LEFT JOIN Table_2 t2
      ON t1.id = t2.fk
   WHERE t2.fk is null;
```
LEFT OUTER JOIN with exclusion
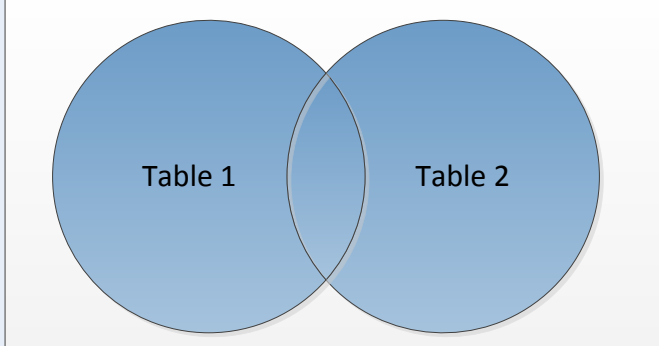– replacement for a NOT IN

```
SELECT *
   FROM Table_1 t1
   RIGHT JOIN Table_2 t2
      ON t1.id = t2.fk
   WHERE t1.id is null;
```
RIGHT OUTER JOIN with exclusion –
replacement for a NOT IN
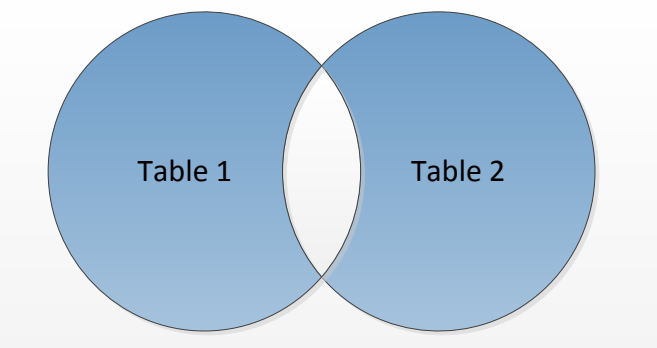
```
SELECT *
   FROM Table_1 t1
   FULL OUTER JOIN Table_2 t2
      ON t1.id = t2.fk;
```
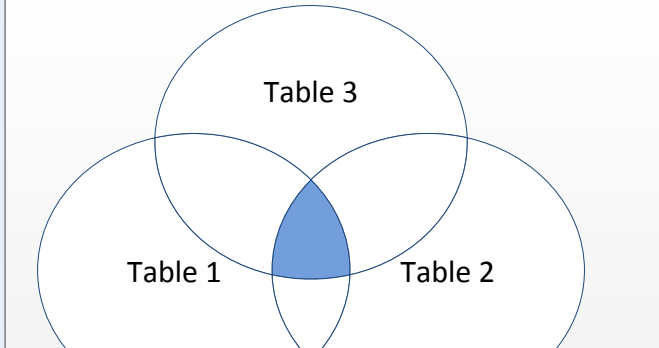FULL OUTER JOIN

```
SELECT *
   FROM Table_1 t1
   CROSS JOIN Table_2 t2;
```
CROSS JOIN, like a FULL OUTER JOIN with out specifying JOIN condition.
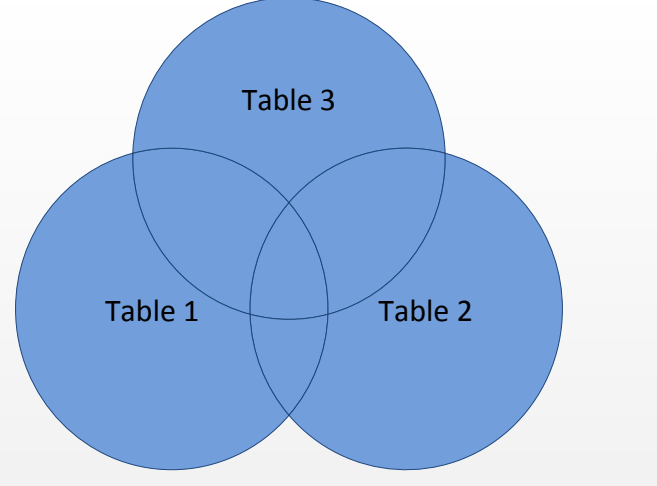
```
SELECT *
   FROM Table_1 t1
   FULL OUTER JOIN Table_2 t2
      ON t1.id = t2.fk
   WHERE t1.id is null
      OR t2.fk is null;
```
FULL OUTER JOIN with exclusion – replacement for a double NOT IN
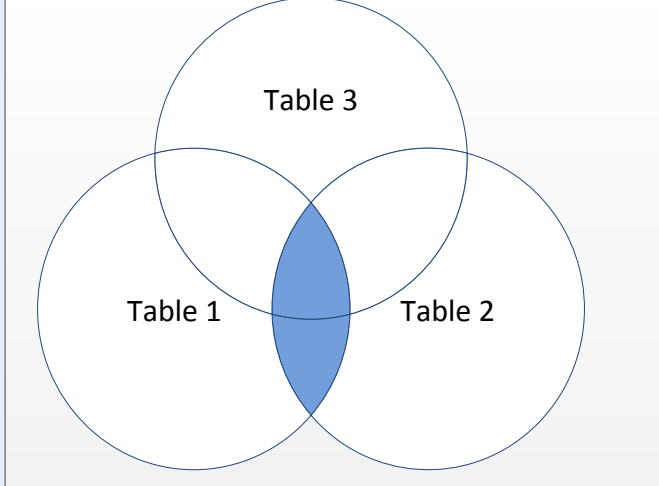
```
SELECT *
   FROM Table_1 t1
   INNER JOIN Table_2 t2
      ON t1.id = t2.fk
   INNER JOIN Table_3 t3
      ON t1.id = t3.fk;
```
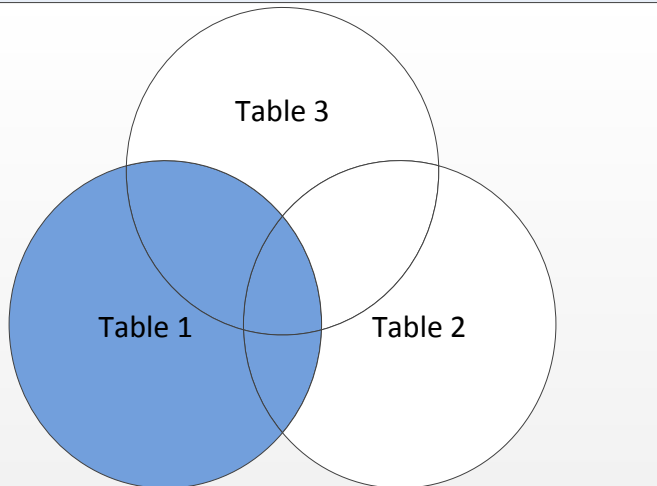Two INNER JOINs

```
SELECT *
   FROM Table_1 t1
   FULL OUTER JOIN Table_2 t2
      ON t1.id = t2.fk
   FULL OUTER JOIN Table_3 t3
      ON t1.id = t3.fk;
```
Two FULL OUTER JOINS

```
SELECT *
   FROM Table_1 t1
   INNER JOIN Table_2 t2
      ON t1.id = t2.fk
   LEFT OUTER JOIN Table_3 t3
      ON t1.id = t3.fk;
```
INNER JOIN and a LEFT OUTER JOIN

```
SELECT *
   FROM Table_1 t1
   LEFT JOIN Table_2 t2
      ON t1.id = t2.fk
   LEFT JOIN Table_3 t3
      ON t1.id = t3.fk;
```
Two LEFT OUTER JOINS