

조인

- 테이블에 as 안쓰고 그냥 다음과 같이 써야한다.

```
select e.ename, e.sal, d.loc
from emp e, dept d --1번째
where e.deptno = d.deptno;
```

스크립트 출력 x | 실행 결과 x

SQL | 인출된 모든 행: 14(0초)

	ENAME	SAL	LOC
1	SMITH	800	DALLAS
2	ALLEN	1600	CHICAGO
3	WARD	1250	CHICAGO
4	JONES	2975	DALLAS
5	MARTIN	1250	CHICAGO
6	BLAKE	2850	CHICAGO
7	CLARK	2450	NEW YORK
8	SCOTT	3000	DALLAS
9	KING	5000	NEW YORK
10	TURNER	1500	CHICAGO
11	ADAMS	1100	DALLAS
12	JAMES	950	CHICAGO
13	FORD	3000	DALLAS

- ANSI - 국제 표준 심사 부서

: ANSI가 정한 표준 sql문장이 있고 이것을 통과하면 DB로 통과.

- Join의 또 다른 표현

```
select e.ename, e.sal, d.loc, d.deptno
from emp e JOIN dept d
ON e.deptno = d.deptno;
```

스크립트 출력 x 실행 결과 x

SQL | 인출된 모든 행: 14(0초)

	EN...	SAL	LOC	DEPTNO
1	SMITH	800	DALLAS	20
2	ALLEN	1600	CHICAGO	30
3	WARD	1250	CHICAGO	30
4	JONES	2975	DALLAS	20
5	MARTIN	1250	CHICAGO	30
6	BLAKE	2850	CHICAGO	30
7	CLARK	2450	NEW YORK	10
8	SCOTT	3000	DALLAS	20
9	KING	5000	NEW YORK	10
10	TURNER	1500	CHICAGO	30
11	ADAMS	1100	DALLAS	20
12	JAMES	950	CHICAGO	30
13	FORD	3000	DALLAS	20

- where에 Join과 조건 같이 달기

```

select e.ename, e.sal, d.loc, d.deptno
from emp e, dept d
where d.deptno = d.deptno and
      d.deptno = 20;

```

스크립트 출력 x 질의 결과 x

SQL | 인출된 모든 행: 14(0초)

	ENAME	SAL	LOC	DEPTNO
1	SMITH	800	DALLAS	20
2	ALLEN	1600	DALLAS	20
3	WARD	1250	DALLAS	20
4	JONES	2975	DALLAS	20
5	MARTIN	1250	DALLAS	20
6	BLAKE	2850	DALLAS	20
7	CLARK	2450	DALLAS	20
8	SCOTT	3000	DALLAS	20
9	KING	5000	DALLAS	20
10	TURNER	1500	DALLAS	20
11	ADAMS	1100	DALLAS	20
12	JAMES	950	DALLAS	20
13	FORD	3000	DALLAS	20

Inner join - 디폴트 조인

```
select e.ename, e.sal, d.loc, d.deptno
from emp e INNER JOIN dept d
ON e.deptno = d.deptno;
```

스크립트 출력 x 실행 결과 x				
SQL 인출된 모든 행: 14(0초)				
	ENAME	SAL	LOC	DEPTNO
1	SMITH	800	DALLAS	20
2	ALLEN	1600	CHICAGO	30
3	WARD	1250	CHICAGO	30
4	JONES	2975	DALLAS	20
5	MARTIN	1250	CHICAGO	30
6	BLAKE	2850	CHICAGO	30
7	CLARK	2450	NEW YORK	10
8	SCOTT	3000	DALLAS	20
9	KING	5000	NEW YORK	10
10	TURNER	1500	CHICAGO	30
11	ADAMS	1100	DALLAS	20
12	JAMES	950	CHICAGO	30
13	FORD	3000	DALLAS	20

Outer Join - 같은게 없어도 나와야 한다.

```

select e.deptno, d.deptno
from emp e, dept d
where e.deptno(+) = d.deptno;

```

스크립트 출력 x | 실행 결과 x

SQL | 인출된 모든 행: 15(0초)

	DEPTNO	DEPTNO_1
1	20	20
2	30	30
3	30	30
4	20	20
5	30	30
6	30	30
7	10	10
8	20	20
9	10	10
10	30	30
11	20	20
12	30	30
13	20	20
14	10	10
15	(null)	40

⇒ 빈 칸이라도 보여준다.

```
select e.ename, e.sal, d.loc, e.deptno
from emp e, dept d
where e.deptno(+) = d.deptno;
```

스크립트 출력 x 질의 결과 x

SQL | 인출된 모든 행: 15(0초)

	ENAME	SAL	LOC	DEPTNO
1	SMITH	800	DALLAS	20
2	ALLEN	1600	CHICAGO	30
3	WARD	1250	CHICAGO	30
4	JONES	2975	DALLAS	20
5	MARTIN	1250	CHICAGO	30
6	BLAKE	2850	CHICAGO	30
7	CLARK	2450	NEW YORK	10
8	SCOTT	3000	DALLAS	20
9	KING	5000	NEW YORK	10
10	TURNER	1500	CHICAGO	30
11	ADAMS	1100	DALLAS	20
12	JAMES	950	CHICAGO	30
13	FORD	3000	DALLAS	20
14	MILLER	1300	NEW YORK	10
15	(null)	(null)	BOSTON	(null)

기준에 따라 Right, Left, Outer 조인

- right outer join(오른쪽 dept 테이블을 기준으로)

<pre> select e.ename, e.sal, d.loc, d.deptno --from emp e RIGHT OUTER JOIN dept d from emp e RIGHT OUTER JOIN dept d ON e.deptno = d.deptno; </pre>				
<div> <div>스크립트 출력 x</div> <div> <div>▶</div> <div>질의 결과 x</div> </div> </div> <div> <div> <div>🖨️</div> <div>🔗</div> <div>🗑️</div> </div> <div>SQL 인출된 모든 행: 15(0초)</div> </div>				
	ENAME	SAL	LOC	DEPTNO
1	SMITH	800	DALLAS	20
2	ALLEN	1600	CHICAGO	30
3	WARD	1250	CHICAGO	30
4	JONES	2975	DALLAS	20
5	MARTIN	1250	CHICAGO	30
6	BLAKE	2850	CHICAGO	30
7	CLARK	2450	NEW YORK	10
8	SCOTT	3000	DALLAS	20
9	KING	5000	NEW YORK	10
10	TURNER	1500	CHICAGO	30
11	ADAMS	1100	DALLAS	20
12	JAMES	950	CHICAGO	30
13	FORD	3000	DALLAS	20
14	MILLER	1300	NEW YORK	10
15	(null)	(null)	BOSTON	40

- left outer join(왼쪽 emp 테이블을 기준으로)

```

select e.ename, e.sal, d.loc, d.deptno
--from emp e RIGHT OUTER JOIN dept d
from emp e LEFT OUTER JOIN dept d
ON e.deptno = d.deptno;

```

스크립트 출력 x 실행 결과 x

SQL | 인출된 모든 행: 14(0초)

	ENAME	SAL	LOC	DEPTNO
1	MILLER	1300	NEW YORK	10
2	KING	5000	NEW YORK	10
3	CLARK	2450	NEW YORK	10
4	FORD	3000	DALLAS	20
5	ADAMS	1100	DALLAS	20
6	SCOTT	3000	DALLAS	20
7	JONES	2975	DALLAS	20
8	SMITH	800	DALLAS	20
9	JAMES	950	CHICAGO	30
10	TURNER	1500	CHICAGO	30
11	BLAKE	2850	CHICAGO	30
12	MARTIN	1250	CHICAGO	30
13	WARD	1250	CHICAGO	30
14	ALLEN	1600	CHICAGO	30

- FULL OUTER JOIN


```
select e.ename, e.sal, d.loc, d.deptno
from dept d FULL OUTER JOIN emp e
ON e.deptno = d.deptno;
```

스크립트 출력 x 질의 결과 x

SQL | 인출된 모든 행: 15(0초)

	ENAME	SAL	LOC	DEPTNO
1	SMITH	800	DALLAS	20
2	ALLEN	1600	CHICAGO	30
3	WARD	1250	CHICAGO	30
4	JONES	2975	DALLAS	20
5	MARTIN	1250	CHICAGO	30
6	BLAKE	2850	CHICAGO	30
7	CLARK	2450	NEW YORK	10
8	SCOTT	3000	DALLAS	20
9	KING	5000	NEW YORK	10
10	TURNER	1500	CHICAGO	30
11	ADAMS	1100	DALLAS	20
12	JAMES	950	CHICAGO	30
13	FORD	3000	DALLAS	20
14	MILLER	1300	NEW YORK	10
15	(null)	(null)	BOSTON	40

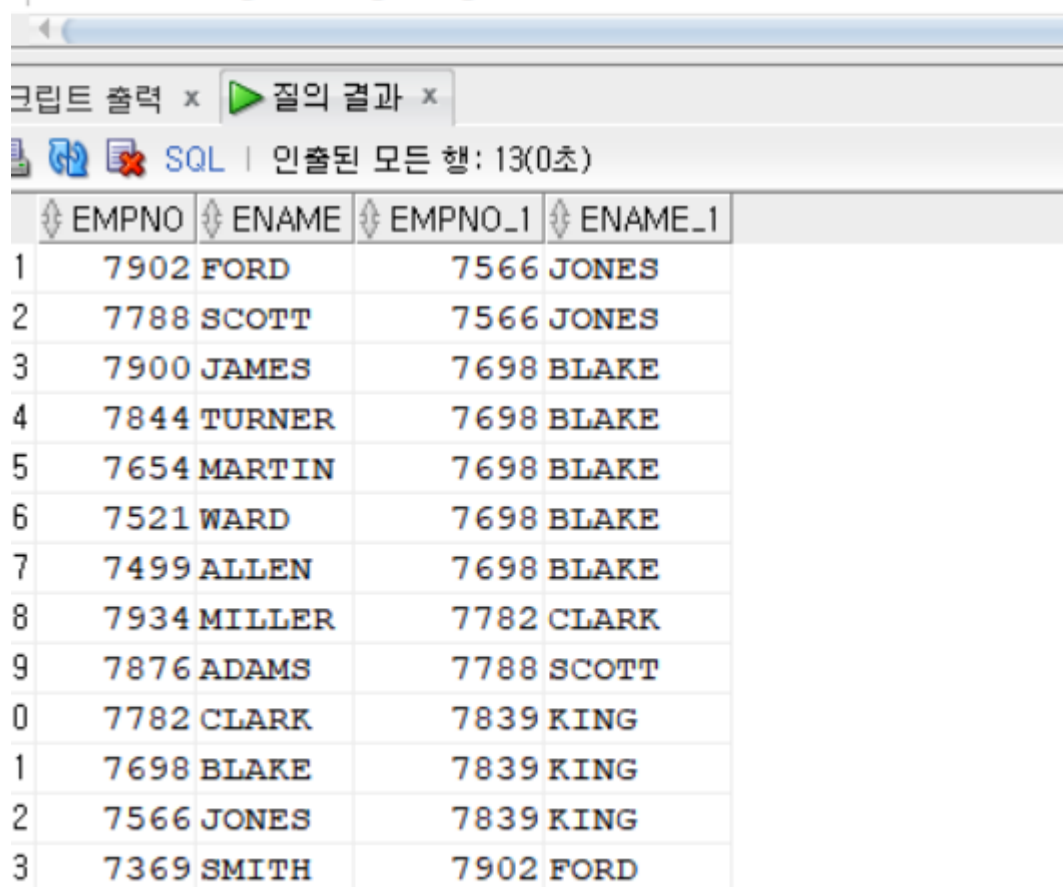
SELF JOIN:같은 테이블끼리 조인(예시- 사수번호, 사원번호)

: from emp e, emp cp 이런식으로 alias만 다르게 해주면 된다.

--사원번호, 사원명, 사수번호, 사수명을 출력

```
select e.empno, e.ename, cp.empno, cp.ename
from emp e INNER JOIN emp cp
ON e.mgr = cp.empno;
```

```
select e.empno, e.ename, e.mgr, cp.ename
from emp e, emp cp
where e.mgr = cp.empno;
```



	EMPNO	ENAME	EMPNO_1	ENAME_1
1	7902	FORD	7566	JONES
2	7788	SCOTT	7566	JONES
3	7900	JAMES	7698	BLAKE
4	7844	TURNER	7698	BLAKE
5	7654	MARTIN	7698	BLAKE
6	7521	WARD	7698	BLAKE
7	7499	ALLEN	7698	BLAKE
8	7934	MILLER	7782	CLARK
9	7876	ADAMS	7788	SCOTT
0	7782	CLARK	7839	KING
1	7698	BLAKE	7839	KING
2	7566	JONES	7839	KING
3	7369	SMITH	7902	FORD

- 대표의 사수도 나오게 출력해봐라.

```

select e.empno, e.ename, cp.empno, cp.ename
from emp e LEFT OUTER JOIN emp cp
on e.mgr = cp.empno;

select e.empno, e.ename, cp.empno, cp.ename
from emp e, emp cp
where e.mgr = cp.empno(+);

```

스크립트 출력 x ▶ 질의 결과 x

SQL | 인출된 모든 행: 14(0초)

	EMPNO	ENAME	EMPNO_1	ENAME_1
1	7902	FORD	7566	JONES
2	7788	SCOTT	7566	JONES
3	7900	JAMES	7698	BLAKE
4	7844	TURNER	7698	BLAKE
5	7654	MARTIN	7698	BLAKE
6	7521	WARD	7698	BLAKE
7	7499	ALLEN	7698	BLAKE
8	7934	MILLER	7782	CLARK
9	7876	ADAMS	7788	SCOTT
10	7782	CLARK	7839	KING
11	7698	BLAKE	7839	KING
12	7566	JONES	7839	KING
13	7369	SMITH	7902	FORD
14	7839	KING	(null)	(null)

- 조인은 기차 놀이다. (세개 테이블 이상도 조인할 수 있다.)

ex)

from cutomer c, ord o, item i

where c.custid = o.custid and

o.ordid = i.ordid

- Between을 사용해서 구간 조건으로 조인도 가능.

```
select e.empno, e.ename, d.deptno, d.dname, d.loc, s.grade
from emp e, dept d, salgrade s
where e.deptno = d.deptno and (e.sal between s.losal and s.hisal)
```

크립트 출력 x | 실행 결과 x

SQL | 인출된 모든 행: 14(0초)

	EMPNO	ENAME	DEPTNO	DNAME	LOC	GRADE
1	7369	SMITH	20	RESEARCH	DALLAS	1
2	7499	ALLEN	30	SALES	CHICAGO	3
3	7521	WARD	30	SALES	CHICAGO	2
4	7566	JONES	20	RESEARCH	DALLAS	4
5	7654	MARTIN	30	SALES	CHICAGO	2
6	7698	BLAKE	30	SALES	CHICAGO	4
7	7782	CLARK	10	ACCOUNTING	NEW YORK	4
8	7788	SCOTT	20	RESEARCH	DALLAS	4
9	7839	KING	10	ACCOUNTING	NEW YORK	5
0	7844	TURNER	30	SALES	CHICAGO	3
1	7876	ADAMS	20	RESEARCH	DALLAS	1
2	7900	JAMES	30	SALES	CHICAGO	1
3	7902	FORD	20	RESEARCH	DALLAS	4
4	7934	MILLER	10	ACCOUNTING	NEW YORK	2

⇒ ANSI로 바꾸기

```
--ANSI로 바꾸기
select e.empno, e.ename, d.deptno, d.dname, d.loc, s.grade
from emp e INNER JOIN dept d    ON e.deptno = d.deptno
      INNER JOIN salgrade s
      on e.sal between s.losal and s. hisal;
```

크립트 출력 x 질의 결과 x

SQL | 인출된 모든 행: 14(0초)

	EMPNO	ENAME	DEPTNO	DNAME	LOC	GRADE
1	7369	SMITH	20	RESEARCH	DALLAS	1
2	7499	ALLEN	30	SALES	CHICAGO	3
3	7521	WARD	30	SALES	CHICAGO	2
4	7566	JONES	20	RESEARCH	DALLAS	4
5	7654	MARTIN	30	SALES	CHICAGO	2
6	7698	BLAKE	30	SALES	CHICAGO	4
7	7782	CLARK	10	ACCOUNTING	NEW YORK	4
8	7788	SCOTT	20	RESEARCH	DALLAS	4
9	7839	KING	10	ACCOUNTING	NEW YORK	5
0	7844	TURNER	30	SALES	CHICAGO	3
1	7876	ADAMS	20	RESEARCH	DALLAS	1
2	7900	JAMES	30	SALES	CHICAGO	1
3	7902	FORD	20	RESEARCH	DALLAS	4
4	7934	MILLER	10	ACCOUNTING	NEW YORK	2