

# Join

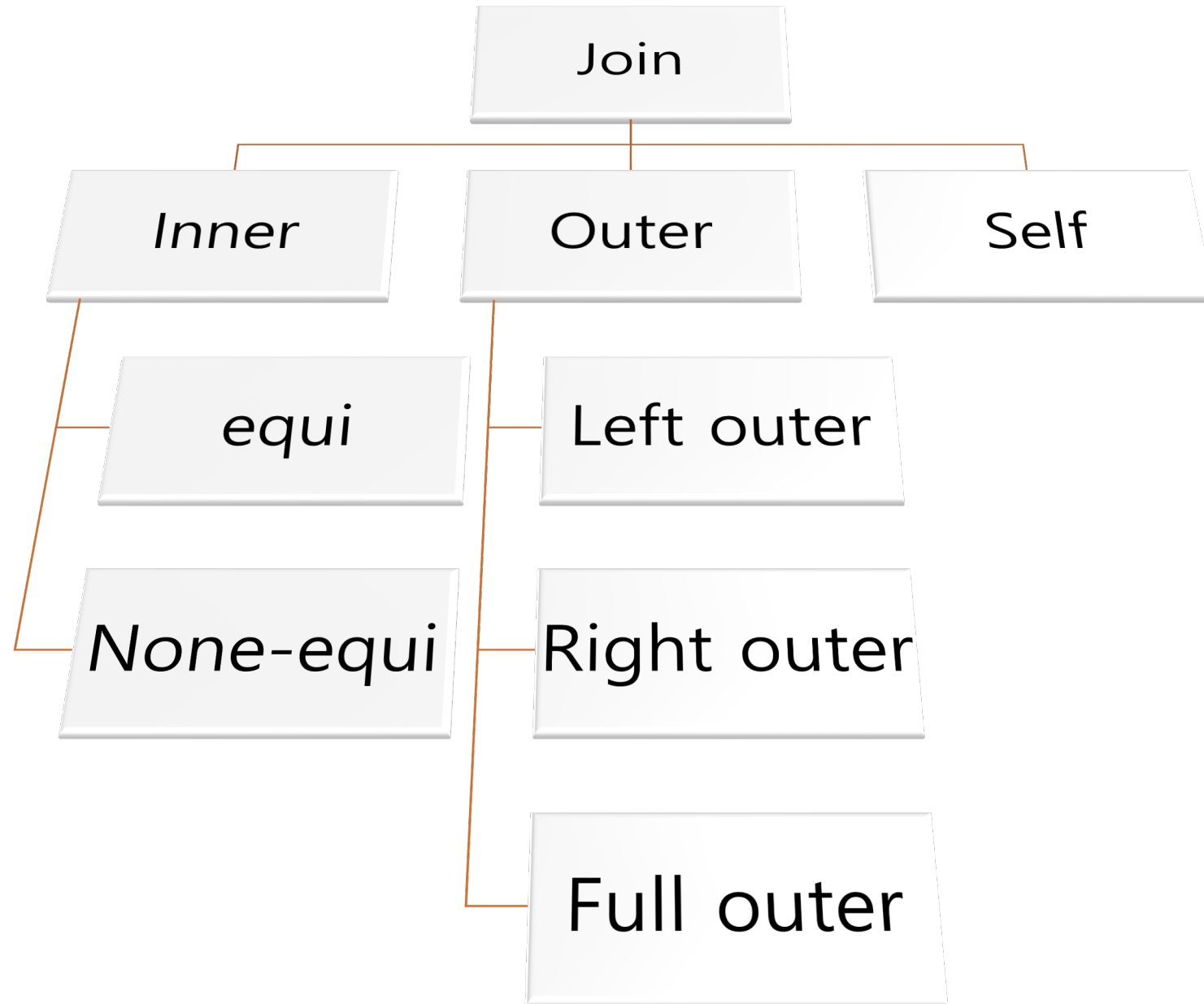
[ <https://www.oracletutorial.com> ] 참고.

A테이블

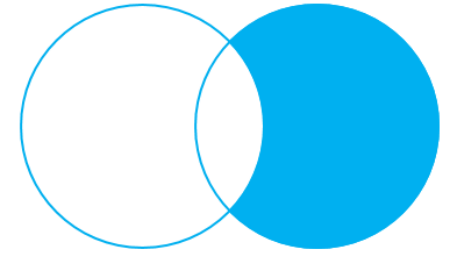
B테이블

연관된 튜플을 결합

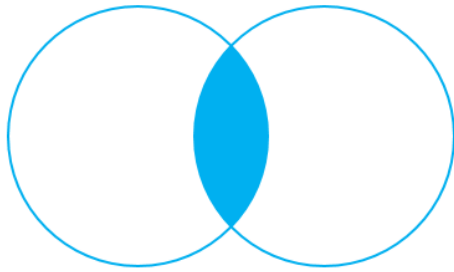
새로운  
릴레이션



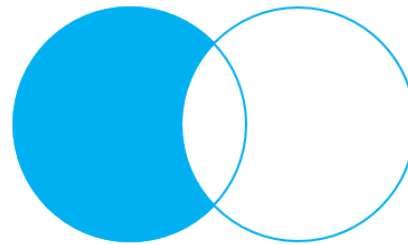
Oracle supports [inner join](#), [left join](#), [right join](#), [full outer join](#) and [cross join](#).  
오라클은 내부조인, 왼쪽조인, 오른쪽조인, 전체조인, 크로스조인을 지원한다.



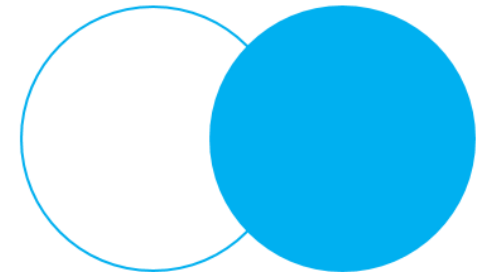
RIGHT OUTER JOIN – only  
rows from the right table



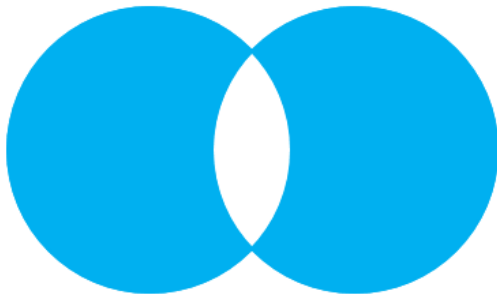
INNER JOIN



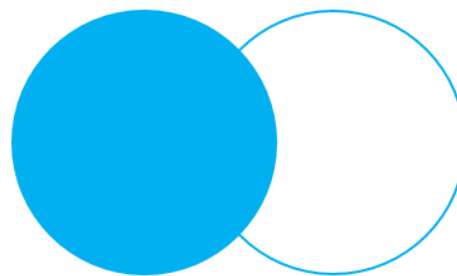
LEFT OUTER JOIN – only  
rows from the left table



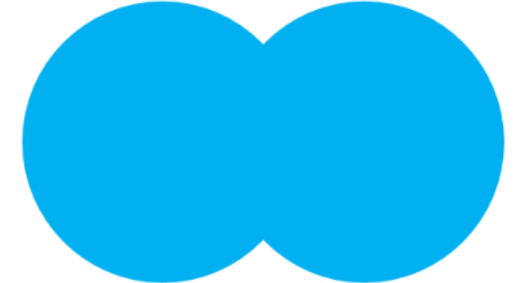
RIGHT OUTER JOIN



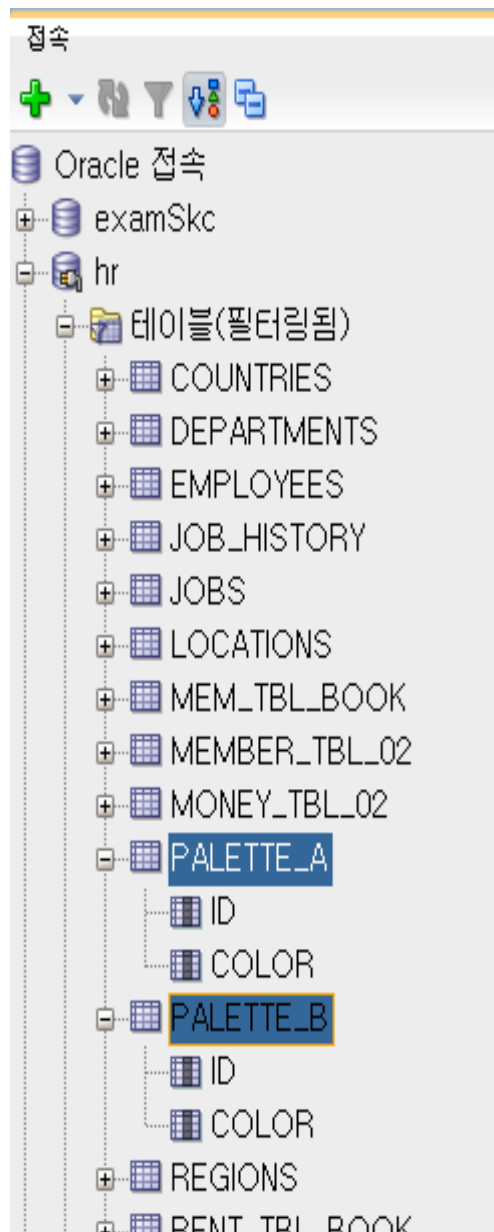
FULL OUTER JOIN – only



LEFT OUTER JOIN



FULL OUTER JOIN

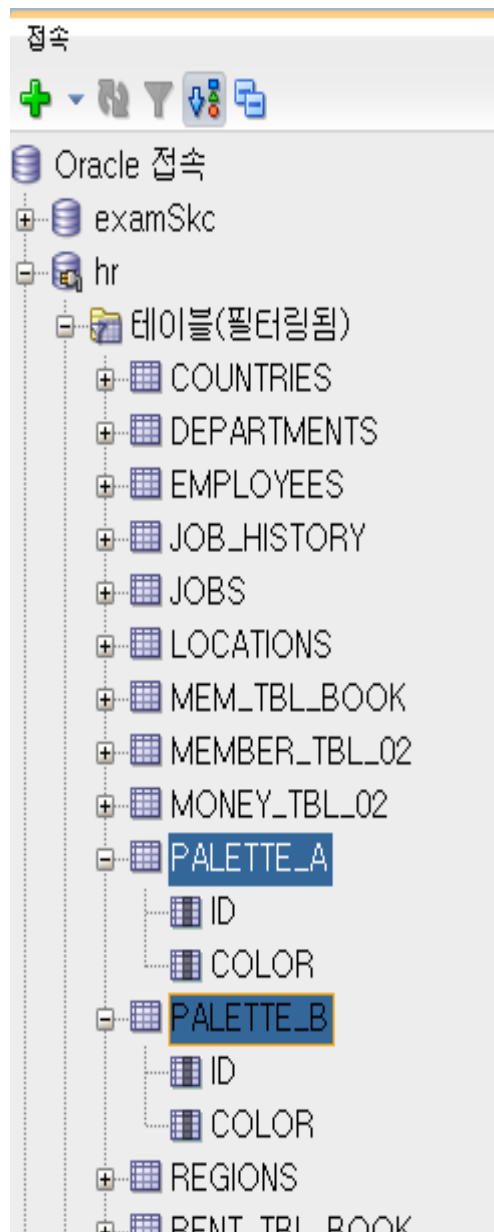


```

1  -- 팔레트테이블 palette_a, palette_b 생성
2  -- 테이블생성
3  CREATE TABLE palette_a (
4      id INT PRIMARY KEY,
5      color VARCHAR2 (100) NOT NULL
6  );
7

```

hrJoin.sql x PALETTE_A x						
열 데이터   Model   제약 조건   권한 부여   통계   트리거   플래시백   종속성   세부정보   분할 영역   인덱스   SQL						
작업...						
	COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
1	ID	NUMBER (38, 0)	No	(null)	1	(null)
2	COLOR	VARCHAR2 (100 BYTE)	No	(null)	2	(null)



```

1  -- 팔레트테이블 palette_a, palette_b 생성
2  -- 테이블생성
3  CREATE TABLE palette_a (...
7
8  CREATE TABLE palette_b (
9      id INT PRIMARY KEY,
10     color VARCHAR2 (100) NOT NULL
11 );
12

```

hrJoin.sql x PALETTE\_B x

열 데이터 | Model | 제약 조건 | 권한 부여 | 통계 | 트리거 | 플래시백 | 종속성 | 세부정보 | 분할 영역 | 인덱스 | SQL

작업...

	COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
1	ID	NUMBER (38, 0)	No	(null)	1	(null)
2	COLOR	VARCHAR2 (100 BYTE)	No	(null)	2	(null)

```

13 -- palette_a 테이블 insert data
14 INSERT INTO palette_a (id, color)
15 VALUES (1, 'Red');
16
17 INSERT INTO palette_a (id, color)
18 VALUES (2, 'Green');
19
20 INSERT INTO palette_a (id, color)
21 VALUES (3, 'Blue');
22
23 INSERT INTO palette_a (id, color)
24 VALUES (4, 'Purple');
25

```

hrJoin.sql x PALETTE\_A x

열 데이터 Model 제약 조건 권한 부여 통계

정렬... 필터:

	ID	COLOR
1	1	Red
2	2	Green
3	3	Blue
4	4	Purple

```

26 -- palette_b 테이블 insert data
27 INSERT INTO palette_b (id, color)
28 VALUES (1, 'Green');
29
30 INSERT INTO palette_b (id, color)
31 VALUES (2, 'Red');
32
33 INSERT INTO palette_b (id, color)
34 VALUES (3, 'Cyan');
35
36 INSERT INTO palette_b (id, color)
37 VALUES (4, 'Brown');
38

```

hrJoin.sql x PALETTE\_B x

열 데이터 Model 제약 조건 권한 부여 통계

정렬... 필터:

	ID	COLOR
1	1	Green
2	2	Red
3	3	Cyan
4	4	Brown

```

41 -- 1. InnerJoin
42 SELECT
43     a.id id_a,
44     a.color color_a,
45     b.id id_b,
46     b.color color_b
47 FROM
48     palette_a a
49 INNER JOIN palette_b b ON a.color = b.color;
50

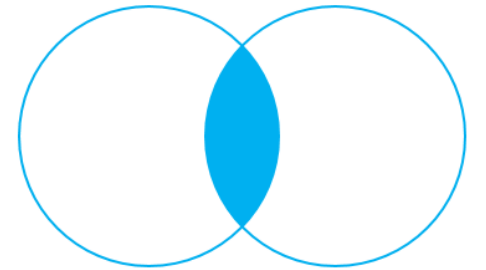
```

실행 결과 x

SQL | 인출된 모든 행: 2(0.003초)

	ID_A	COLOR_A	ID_B	COLOR_B
1	2	Green	1	Green
2	1	Red	2	Red

PALETTE_A		PALETTE_B	
ID	COLOR	ID	COLOR
1	Red	1	Green
2	Green	2	Red
3	Blue	3	Cyan
4	Purple	4	Brown



INNER JOIN



```

51 -- 2. leftOuterJoin
52 SELECT
53     a.id id_a,
54     a.color color_a,
55     b.id id_b,
56     b.color color_b
57 FROM
58     palette_a a
59 LEFT JOIN palette_b b ON a.color = b.color;
60

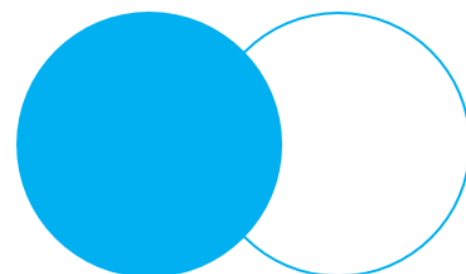
```

실행 결과 x

SQL | 인출된 모든 행: 4(0.004초)

	ID_A	COLOR_A	ID_B	COLOR_B
1	2	Green	1	Green
2	1	Red	2	Red
3	3	Blue	(null)	(null)
4	4	Purple	(null)	(null)

PALETTE_A		PALETTE_B	
ID	COLOR	ID	COLOR
1	Red	1	Green
2	Green	2	Red
3	Blue	3	Cyan
4	Purple	4	Brown



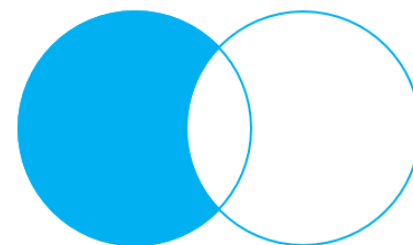
LEFT OUTER JOIN

```

61 -- 3. NULL표현 leftOuterJoin
62 SELECT
63     a.id id_a,
64     a.color color_a,
65     b.id id_b,
66     b.color color_b
67 FROM
68     palette_a a
69 LEFT JOIN palette_b b ON a.color = b.color
70 WHERE b.id IS NULL;
71

```

PALETTE_A			PALETTE_B		
열	데이터	Model   제약	열	데이터	Model   제약
	ID	COLOR		ID	COLOR
	1	1 Red		1	1 Green
	2	2 Green		2	2 Red
	3	3 Blue		3	3 Cyan
	4	4 Purple		4	4 Brown



LEFT OUTER JOIN – only rows from the left table

질의 결과 x

SQL | 인출된 모든 행: 2(0.003초)

	ID_A	COLOR_A	ID_B	COLOR_B
1	3	Blue	(null)	(null)
2	4	Purple	(null)	(null)

```

72 -- 4. rightOuterJoin
73 SELECT
74     a.id id_a,
75     a.color color_a,
76     b.id id_b,
77     b.color color_b
78 FROM
79     palette_a a
80 RIGHT JOIN palette_b b ON a.color = b.color;
81

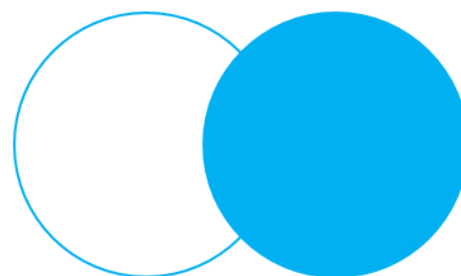
```

실행 결과 x

SQL | 인출된 모든 행: 4(0.005초)

	ID_A	COLOR_A	ID_B	COLOR_B
1	1	Red	2	Red
2	2	Green	1	Green
3	(null)	(null)	4	Brown
4	(null)	(null)	3	Cyan

PALETTE_A		PALETTE_B	
ID	COLOR	ID	COLOR
1	Red	1	Green
2	Green	2	Red
3	Blue	3	Cyan
4	Purple	4	Brown



RIGHT OUTER JOIN

```

82 -- 5. NULL표현 rightOuterJoin
83 SELECT
84     a.id id_a,
85     a.color color_a,
86     b.id id_b,
87     b.color color_b
88 FROM
89     palette_a a
90 RIGHT JOIN palette_b b ON a.color = b.color
91 WHERE a.id IS NULL;
92

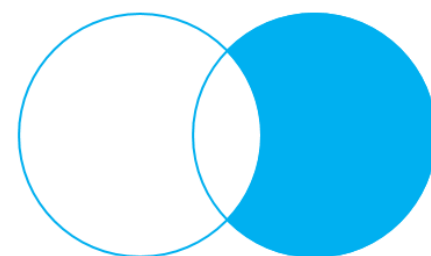
```

실행 결과 x

SQL | 인출된 모든 행: 2(0.002초)

	ID_A	COLOR_A	ID_B	COLOR_B
1	(null)	(null)	4	Brown
2	(null)	(null)	3	Cyan

PALETTE_A			PALETTE_B		
ID	COLOR		ID	COLOR	
1	Red		1	Green	
2	Green		2	Red	
3	Blue		3	Cyan	
4	Purple		4	Brown	



RIGHT OUTER JOIN – only  
rows from the right table

```

93 -- 6. fullOuterJoin
94 SELECT
95     a.id id_a,
96     a.color color_a,
97     b.id id_b,
98     b.color color_b
99 FROM
100     palette_a a
101 FULL OUTER JOIN palette_b b ON a.color = b.color;
102

```

PALETTE_A		PALETTE_B	
ID	COLOR	ID	COLOR
1	Red	1	Green
2	Green	2	Red
3	Blue	3	Cyan
4	Purple	4	Brown

질의 결과 x

SQL | 인출된 모든 행: 6(0.004초)

	ID_A	COLOR_A	ID_B	COLOR_B
1		2 Green		1 Green
2		1 Red		2 Red
3	(null)	(null)		3 Cyan
4	(null)	(null)		4 Brown
5		3 Blue	(null)	(null)
6		4 Purple	(null)	(null)



FULL OUTER JOIN

```

103 -- 7. NULL표현 fullOuterJoin
104 SELECT
105     a.id id_a,
106     a.color color_a,
107     b.id id_b,
108     b.color color_b
109 FROM
110     palette_a a
111 FULL JOIN palette_b b ON a.color = b.color
112 WHERE a.id IS NULL OR b.id IS NULL;
113

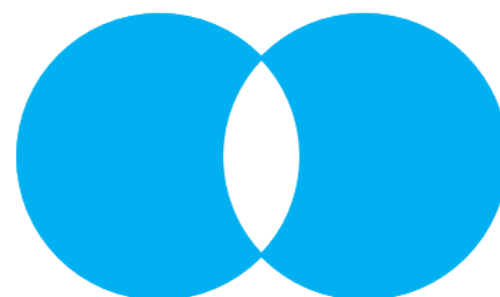
```

PALETTE_A		PALETTE_B	
ID	COLOR	ID	COLOR
1	Red	1	Green
2	Green	2	Red
3	Blue	3	Cyan
4	Purple	4	Brown

질의 결과 x

SQL | 인출된 모든 행: 4(0.004초)

	ID_A	COLOR_A	ID_B	COLOR_B
1	(null)	(null)	3	Cyan
2	(null)	(null)	4	Brown
3		3Blue	(null)	(null)
4		4Purple	(null)	(null)



FULL OUTER JOIN – only

```

115 -- 8. crossJoin
116 -- 많은행 (행*행) 을 만들어 테스트목적으로 사용한다.
117 SELECT
118     a.id, a.color, b.id, b.color
119 FROM
120     palette_a a
121 CROSS JOIN palette_b b;
122

```

질의 결과 x

SQL | 인출된 모든 행: 16(0.005초)

	ID	COLOR	ID_1	COLOR_1
1	1	Red	1	Green
2	1	Red	2	Red
3	1	Red	3	Cyan
4	1	Red	4	Brown
5	2	Green	1	Green
6	2	Green	2	Red
7	2	Green	3	Cyan
8	2	Green	4	Brown
9	3	Blue	1	Green
10	3	Blue	2	Red
11	3	Blue	3	Cyan
12	3	Blue	4	Brown
13	4	Purple	1	Green
14	4	Purple	2	Red
15	4	Purple	3	Cyan
16	4	Purple	4	Brown

PALETTE_A		PALETTE_B	
ID	COLOR	ID	COLOR
1	Red	1	Green
2	Green	2	Red
3	Blue	3	Cyan
4	Purple	4	Brown

```

124 -- 9. selfJoin_ 하나의 테이블내에서 행을 비교, 분석할때 사용.
125 -- 입사일이 같은 사원들이 있는지? 검색.
126 SELECT
127     e1.hire_date,
128     e1.employee_id,
129     (e1.first_name || ' ' || e1.last_name) employee1,
130     e2.employee_id,
131     (e2.first_name || ' ' || e2.last_name) employee2
132 FROM
133     employees e1
134 INNER JOIN employees e2 ON
135     e1.employee_id > e2.employee_id
136     AND e1.hire_date = e2.hire_date
137 ORDER BY
138     e1.hire_date DESC, employee1, employee2;
139

```

▶ 질의 결과 x

SQL | 인출된 모든 행: 12(0,006초)

	HIRE_DATE	EMPLOYEE_ID	EMPLOYEE1	EMPLOYEE_ID_1	EMPLOYEE2
1	08/04/21	173	Sundita Kumar	167	Amit Banda
2	07/06/21	198	Donald OConnell	182	Martha Sullivan
3	07/02/07	187	Anthony Cabrio	107	Diana Lorentz
4	06/01/24	180	Winston Taylor	170	Tayler Fox
5	05/08/20	152	Peter Hall	129	Laura Bissot
6	05/03/10	159	Lindsey Smith	147	Alberto Errazuriz
7	02/06/07	204	Hermann Baer	203	Susan Mavris
8	02/06/07	205	Shelley Higgins	204	Hermann Baer
9	02/06/07	205	Shelley Higgins	203	Susan Mavris
10	02/06/07	206	William Gietz	204	Hermann Baer
11	02/06/07	206	William Gietz	205	Shelley Higgins
12	02/06/07	206	William Gietz	203	Susan Mavris



A테이블

B테이블

A와 B테이블을 연결하여,  
필드에서 데이터를 가져오  
기 위함이다.