

기본 쿼리 실습

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2021.06

1. 쿼리 실습(사원정보)

(1) 직급이 **IT_PROG**인 사원의 사번, 이름, 직급, 급여, 부서번호 조회

```
SELECT employee_id, first_name, last_name, job_id, salary,  
       department_id  
FROM employees  
WHERE job_id = 'IT_PROG';
```

	EMPLOYEE_ID	FIRST_NAME	LAST_NAME	JOB_ID	SALARY	DEPARTMENT_ID
1	103	Alexander	Hunold	IT_PROG	9000	60
2	104	Bruce	Ernst	IT_PROG	6000	60
3	105	David	Austin	IT_PROG	4800	60
4	106	Valli	Pataballa	IT_PROG	4800	60
5	107	Diana	Lorentz	IT_PROG	4200	60

1. 쿼리 실습(사원정보)

(2) 2005 ~ 2006년 입사한 사원의 사번, 이름, 입사일자, 급여, 부서번호 조회 (입사일자 순 정렬)

```
SELECT employee_id, first_name, last_name, hire_date, salary, department_id
FROM employees
WHERE TO_CHAR(hire_date, 'YYYY') IN ('2005','2006')
ORDER BY hire_date;
```

	EMPLOYEE_ID	FIRST_NAME	LAST_NAME	HIRE_DATE	SALARY	DEPARTMENT_ID
1	146	Karen	Partners	2005-01-05 00:00:00	13500	80
2	142	Curtis	Davies	2005-01-29 00:00:00	3100	50
3	150	Peter	Tucker	2005-01-30 00:00:00	10000	80
4	131	James	Marlow	2005-02-16 00:00:00	2500	50
5	185	Alexis	Bull	2005-02-20 00:00:00	4100	50
6	193	Britney	Everett	2005-03-03 00:00:00	3900	50
7	147	Alberto	Errazuriz	2005-03-10 00:00:00	12000	80
8	159	Lindsey	Smith	2005-03-10 00:00:00	8000	80
9	168	Lisa	Ozer	2005-03-11 00:00:00	11500	80
10	175	Alyssa	Hutton	2005-03-19 00:00:00	8800	80
11	151	David	Bernstein	2005-03-24 00:00:00	9500	80
12	121	Adam	Fripp	2005-04-10 00:00:00	8200	50
13	188	Kelly	Chung	2005-06-14 00:00:00	3800	50
14	105	David	Austin	2005-06-25 00:00:00	4800	60
15	125	Julia	Nayer	2005-07-16 00:00:00	3200	50
16	117	Sigal	Tobias	2005-07-24 00:00:00	2800	30
17	189	Jennifer	Dilly	2005-08-13 00:00:00	3600	50
18	202	Pat	Fay	2005-08-17 00:00:00	6000	20
19	152	Peter	Hall	2005-08-20 00:00:00	9000	80
20	129	Laura	Bissot	2005-08-20 00:00:00	3300	50

1. 쿼리 실습(사원정보)

(2) 2005 ~ 2006년 입사한 사원의 사번, 이름, 입사일자, 급여, 부서번호 조회 (입사일자 순 정렬)

```
SELECT employee_id, first_name, last_name, hire_date, salary, department_id  
FROM employees  
WHERE hire_date BETWEEN TO_DATE('2005-01-01','YYYY-MM-DD')  
AND TO_DATE('2006-12-31','YYYY-MM-DD')  
ORDER BY hire_date;
```

1. 쿼리 실습(사원정보)

(3) 직급이 **SH_CLERK**이고 **50**번 부서에 속하는 사원의 사번, 이름, 직급, 부서번호 조회
(부서번호, 사번 순 정렬)

```
SELECT employee_id, first_name, last_name, job_id, department_id
FROM employees
WHERE job_id = 'SH_CLERK'
AND department_id = 50
ORDER BY department_id, employee_id;
```

	EMPLOYEE_ID	FIRST_NAME	LAST_NAME	JOB_ID	DEPARTMENT_ID
1	180	Winston	Taylor	SH_CLERK	50
2	181	Jean	Fleaur	SH_CLERK	50
3	182	Martha	Sullivan	SH_CLERK	50
4	183	Girard	Geoni	SH_CLERK	50
5	184	Nandita	Sarchand	SH_CLERK	50
6	185	Alexis	Bull	SH_CLERK	50
7	186	Julia	Dellinger	SH_CLERK	50
8	187	Anthony	Cabrio	SH_CLERK	50
9	188	Kelly	Chung	SH_CLERK	50
10	189	Jennifer	Dilly	SH_CLERK	50
11	190	Timothy	Gates	SH_CLERK	50
12	191	Randall	Perkins	SH_CLERK	50
13	192	Sarah	Bell	SH_CLERK	50
14	193	Britney	Everett	SH_CLERK	50
15	194	Samuel	McCain	SH_CLERK	50
16	195	Vance	Jones	SH_CLERK	50
17	196	Alana	Walsh	SH_CLERK	50
18	197	Kevin	Feeney	SH_CLERK	50
19	198	Donald	OConnell	SH_CLERK	50
20	199	Douglas	Grant	SH_CLERK	50

1. 쿼리 실습(사원정보)

(4) 2008년 입사자 중 급여가 5000 이상인 사원과 2007년 입사자 중 급여가 7000 이하인 사원 조회

```
SELECT *  
FROM employees  
WHERE ( TO_CHAR(hire_date, 'YYYY') = '2008'  
        AND salary >= 5000  
      )  
OR ( TO_CHAR(hire_date, 'YYYY') = '2007'  
     AND salary <= 7000  
    )  
ORDER BY hire_date, salary;
```

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY
1	127 James	Landry	JLANDRY	650.124.1334	2007-01-14 00:00:00	ST_CLERK	2400
2	187 Anthony	Cabrio	ACABRIO	650.509.4876	2007-02-07 00:00:00	SH_CLERK	3000
3	107 Diana	Lorentz	DLORENTZ	590.423.5567	2007-02-07 00:00:00	IT_PROG	4200
4	195 Vance	Jones	VJONES	650.501.4876	2007-03-17 00:00:00	SH_CLERK	2800
5	132 TJ	Olson	TJOLSON	650.124.8234	2007-04-10 00:00:00	ST_CLERK	2100
6	104 Bruce	Ernst	BERNST	590.423.4568	2007-05-21 00:00:00	IT_PROG	6000
7	178 Kimberly	Grant	KGRANT	011.44.1644.429263	2007-05-24 00:00:00	SA_REP	7000
8	182 Martha	Sullivan	MSULLIVA	650.507.9878	2007-06-21 00:00:00	SH_CLERK	2500
9	198 Donald	OConnell	DOCONNEL	650.507.9833	2007-06-21 00:00:00	SH_CLERK	2600
10	119 Karen	Colmenares	KCOLMENA	515.127.4566	2007-08-10 00:00:00	PU_CLERK	2500
11	124 Kevin	Mourgos	KMOURGOS	650.123.5234	2007-11-16 00:00:00	ST_MAN	5800
12	155 Oliver	Tuvault	OTUVAULT	011.44.1344.486508	2007-11-23 00:00:00	SA_REP	7000
13	113 Luis	Popp	LPOPP	515.124.4567	2007-12-07 00:00:00	FI_ACCOUNT	6900
14	135 Ki	Gee	KGEE	650.127.1734	2007-12-12 00:00:00	ST_CLERK	2400
15	191 Randall	Perkins	RPERKINS	650.505.4876	2007-12-19 00:00:00	SH_CLERK	2500
16	179 Charles	Johnson	CJOHNSON	011.44.1644.429262	2008-01-04 00:00:00	SA_REP	6200
17	164 Mattea	Marvins	MMARVINS	011.44.1346.329268	2008-01-24 00:00:00	SA_REP	7200
18	149 Eleni	Zlotkey	EZLOTKEY	011.44.1344.429018	2008-01-29 00:00:00	SA_MAN	10500
19	165 David	Lee	DLEE	011.44.1346.529268	2008-02-23 00:00:00	SA_REP	6800
20	166 Sundar	Ande	SANDE	011.44.1346.629268	2008-03-24 00:00:00	SA_REP	6400
21	173 Sundita	Kumar	SKUMAR	011.44.1343.329268	2008-04-21 00:00:00	SA_REP	6100
22	167 Amit	Banda	ABANDA	011.44.1346.729268	2008-04-21 00:00:00	SA_REP	6200

1. 쿼리 실습(사원정보)

(5) **Marketing** 부서에 속한 사원의 사번, 이름, 성, 부서번호, 부서명 조회

```
SELECT a.employee_id, a.first_name, a.last_name, a.department_id,  
       b.department_name  
FROM employees a,  
     departments b  
WHERE a.department_id = b.department_id  
      AND b.department_name = 'Marketing';
```

	EMPLOYEE_ID	FIRST_NAME	LAST_NAME	DEPARTMENT_ID	DEPARTMENT_NAME
1	201	Michael	Hartstein	20	Marketing
2	202	Pat	Fay	20	Marketing

1. 쿼리 실습(사원정보)

(6) **이탈리아** 근무하는 사원의 **총 인원수와 급여 합계** 조회

```
SELECT COUNT(*), SUM(a.salary)
FROM employees a,
     departments b,
     locations c
WHERE a.department_id = b.department_id
     AND b.location_id = c.location_id
     AND c.country_id = 'IT';
```

	⚡ COUNT(*)	⚡ SUM(A.SALARY)
1	0	(null)

1. 쿼리 실습(사원정보)

(7) **미국에** 근무하는 사원의 주(州)별 **총 인원수와 급여 합계** 조회

```
SELECT c.state_province, COUNT(*), SUM(a.salary)
FROM employees a,
      departments b,
      locations c
WHERE a.department_id = b.department_id
      AND b.location_id = c.location_id
      AND c.country_id = 'US'
GROUP BY c.state_province;
```

	STATE_PROVINCE	COUNT(*)	SUM(A.SALARY)
1	California	45	156400
2	Washington	18	159216
3	Texas	5	28800

1. 쿼리 실습(사원정보)

(8) 부서 번호, 부서 명, 부서 관리자 사번과 성명 조회 (ANSI 조인 문법 사용)

```
SELECT a.department_id, a.department_name,  
       a.manager_id,  
       b.first_name || ' ' || b.last_name manager_name  
FROM departments a  
INNER JOIN employees b  
  ON a.manager_id = b.employee_id  
ORDER BY 1;
```

	DEPARTMENT_ID	DEPARTMENT_NAME	MANAGER_ID	MANAGER_NAME
1	10	Administration	200	Jennifer Whalen
2	20	Marketing	201	Michael Hartstein
3	30	Purchasing	114	Den Raphaely
4	40	Human Resources	203	Susan Mavris
5	50	Shipping	121	Adam Fripp
6	60	IT	103	Alexander Hunold
7	70	Public Relations	204	Hermann Baer
8	80	Sales	145	John Russell
9	90	Executive	100	Steven King
10	100	Finance	108	Nancy Greenberg
11	110	Accounting	205	Shelley Higgins

2. 쿼리 실습(주문정보)

(1) 연도별로 2번 이상 주문한 고객 이름을 조회하라

```
SELECT TO_CHAR(a.order_date, 'YYYY') order_year,  
       b.first_name || ' ' || b.last_name cust_name,  
       COUNT(*)  
FROM orders a,  
      customers b  
WHERE a.customer_id = b.customer_id  
GROUP BY TO_CHAR(a.order_date, 'YYYY'),  
         b.first_name || ' ' || b.last_name  
HAVING COUNT(*) > 1  
ORDER BY 1, 2;
```

	ORDER_YEAR	CUST_NAME	COUNT(*)
1	2016	Araceli Golden	2
2	2016	Caren Stephens	2
3	2016	Charolette Rice	2
4	2016	Cleotilde Booth	2
5	2016	Dacia William	2
6	2016	Elinore Aguilar	2
7	2016	Garry Espinoza	2
8	2016	Jamaal Albert	2
9	2016	Keri Bridges	2
10	2016	Williemae Holloway	2
11	2017	Bridgette Guerra	2
12	2017	Daryl Spence	2
13	2017	Kasha Todd	2
14	2017	Lizzette Stein	2
15	2018	Debra Burks	2
16	2018	Deloris Burke	2
17	2018	Deshawn Mendoza	2
18	2018	Genoveva Baldwin	2
19	2018	Georgetta Hardin	2
20	2018	Guillermina Noble	2
21	2018	Jayne Kirkland	2
22	2018	Latasha Hays	2
23	2018	Linnie Branch	3
24	2018	Lolita Mosley	2

2. 쿼리 실습(주문정보)

(2) 2018년 주문한 고객과 주문 금액을 주문 금액이 큰 순서대로 조회

```
SELECT b.first_name || ' ' || b.last_name cust_name,  
       SUM(c.quantity * c.list_price) order_amt,  
       COUNT(*)  
FROM orders a,  
     customers b,  
     order_items c  
WHERE a.customer_id = b.customer_id  
      AND a.order_id = c.order_id  
      AND TO_CHAR(a.order_date, 'YYYY') = '2018'  
GROUP BY b.first_name || ' ' || b.last_name  
ORDER BY 2 DESC;
```

	CUST_NAME	ORDER_AMT	COUNT(*)
1	Pamelia Newman	35352.86	9
2	Lyndsey Bean	28767.9	8
3	Abby Gamble	28499.95	3
4	Shena Carter	27618.95	4
5	Sharyn Hopkins	26989.93	5
6	Tameka Fisher	26249.81	13
7	Guillermína Noble	24779.86	8
8	Brigid Sharp	22299.95	4
9	Tenisha Lyons	21941.86	10
10	Augustina Joyner	21789.92	5
11	Genoveva Baldwin	21446.82	6
12	Bess McBride	21097.95	4
13	Ashanti Hammond	20997.94	4
14	Debra Burks	20707.92	7
15	Ruthanne Franco	20679.95	3
16	Monica Sears	19739.89	7
17	Jimmy Russell	19419.94	4
18	Elinore Aguilar	17719.91	5
19	Addie Hahn	17369.92	5
20	Sarita Parks	17327.9	8
21	Bridgette Guerra	16419.91	5
22	Williemae Holloway	16399.94	3
23	Dortha Jarvis	16358.94	5
24	Emmitt Sanchez	15988.93	5
25	Earlean Pena	15889.94	4
26	Jana Thomas	15839.93	5

2. 쿼리 실습(주문정보)

(3) 2018년 판매 실적이 많은 사원 별로 조회

```
SELECT b.first_name || ' ' || b.last_name staff_name,  
       SUM(c.quantity * c.list_price) order_amt,  
       COUNT(*)  
FROM orders a,  
      staffs b,  
      order_items c  
WHERE a.staff_id = b.staff_id  
      AND a.order_id = c.order_id  
      AND TO_CHAR(a.order_date, 'YYYY') = '2018'  
GROUP BY b.first_name || ' ' || b.last_name  
ORDER BY 2 DESC;
```

	STAFF_NAME	ORDER_AMT	COUNT(*)
1	Venita Daniel	695171.09	264
2	Marcelene Boyer	585473.24	274
3	Genna Serrano	277870.04	137
4	Mireya Copeland	253248.46	104
5	Kali Vargas	150034.96	73
6	Layla Terrell	62191.6	27

2. 쿼리 실습(주문정보)

(4) 2018년 판매 실적이 많은 사원과 매장 조회

```
SELECT b.first_name || ' ' || b.last_name staff_name,  
       d.store_name,  
       SUM(c.quantity * c.list_price) order_amt,  
       COUNT(*)  
FROM orders a, staffs b,  
       order_items c, stores d  
WHERE a.staff_id = b.staff_id  
      AND a.order_id = c.order_id  
      AND a.store_id = d.store_id  
      AND TO_CHAR(a.order_date, 'YYYY') = '2018'  
GROUP BY b.first_name || ' ' || b.last_name, d.store_name  
ORDER BY 3 DESC;
```

STAFF_NAME	STORE_NAME	ORDER_AMT	COUNT(*)
1 Venita Daniel	Baldwin Bikes	695171.09	264
2 Marcelene Boyer	Baldwin Bikes	585473.24	274
3 Genna Serrano	Santa Cruz Bikes	277870.04	137
4 Mireya Copeland	Santa Cruz Bikes	253248.46	104
5 Kali Vargas	Rowlett Bikes	150034.96	73
6 Layla Terrell	Rowlett Bikes	62191.6	27

2. 쿼리 실습(주문정보)

(5) 연도별로 가장 많이 팔린 상품의 카테고리리는?

```
SELECT TO_CHAR(a.order_date, 'YYYY') years,  
       d.category_name,  
       SUM(b.quantity * b.list_price) order_amt  
FROM orders a,  
     order_items b,  
     products c,  
     categories d  
WHERE a.order_id = b.order_id  
      AND b.product_id = c.product_id  
      AND c.category_id = d.category_id  
GROUP BY TO_CHAR(a.order_date, 'YYYY'), d.category_name  
ORDER BY 1, 3 DESC;
```

	YEARS	CATEGORY_NAME	ORDER_AMT
1	2016	Mountain Bikes	1326765.61
2	2016	Cruisers Bicycles	425642.67
3	2016	Cyclocross Bicycles	375963.86
4	2016	Electric Bikes	311998.96
5	2016	Comfort Bicycles	171046.87
6	2016	Children Bicycles	98066.5
7	2017	Mountain Bikes	1252294.36
8	2017	Road Bikes	1161450.67
9	2017	Cruisers Bicycles	424894.6
10	2017	Cyclocross Bicycles	331656.99
11	2017	Electric Bikes	324559.02
12	2017	Comfort Bicycles	185285.27
13	2017	Children Bicycles	165374.11
14	2018	Road Bikes	691104.93
15	2018	Mountain Bikes	451715.74
16	2018	Electric Bikes	383678.87
17	2018	Cruisers Bicycles	258613.77
18	2018	Cyclocross Bicycles	92253.75
19	2018	Comfort Bicycles	82174.73
20	2018	Children Bicycles	64447.6

2. 쿼리 실습(주문정보) – 서브쿼리 사용

(5) 연도별로 가장 많이 팔린 상품의 카테고리리는?

```
SELECT years, MAX(order_amt) max_amt
FROM ( SELECT TO_CHAR(a.order_date, 'YYYY') years,
          d.category_name,
          SUM(b.quantity * b.list_price) order_amt
        FROM orders a, order_items b,
             products c, categories d
        WHERE a.order_id = b.order_id
              AND b.product_id = c.product_id
              AND c.category_id = d.category_id
        GROUP BY TO_CHAR(a.order_date, 'YYYY'), d.category_name
        ORDER BY 1, 3 DESC
      )
GROUP BY years ;
```

	YEARS	MAX_AMT
1	2016	1326765.61
2	2018	691104.93
3	2017	1252294.36

2. 쿼리 실습(주문정보) – 서브쿼리 사용

(5) 연도별로 가장 많이 팔린 상품의 카테고리명은?

	YEARS	CATEGORY_NAME	ORDER_AMT
1	2016	Mountain Bikes	1326765.61
2	2016	Cruisers Bicycles	425642.67
3	2016	Cyclocross Bicycles	375963.86
4	2016	Electric Bikes	311998.96
5	2016	Comfort Bicycles	171046.87
6	2016	Children Bicycles	98066.5
7	2017	Mountain Bikes	1252294.36
8	2017	Road Bikes	1161450.67
9	2017	Cruisers Bicycles	424894.6
10	2017	Cyclocross Bicycles	331656.99
11	2017	Electric Bikes	324559.02
12	2017	Comfort Bicycles	185285.27
13	2017	Children Bicycles	165374.11
14	2018	Road Bikes	691104.93
15	2018	Mountain Bikes	451715.74
16	2018	Electric Bikes	383678.87
17	2018	Cruisers Bicycles	258613.77
18	2018	Cyclocross Bicycles	92253.75
19	2018	Comfort Bicycles	82174.73
20	2018	Children Bicycles	64447.6

	YEARS	MAX_AMT
1	2016	1326765.61
2	2018	691104.93
3	2017	1252294.36

2. 쿼리 실습(주문정보)

(5) 연도별로 가장 많이 팔린 상품의 카테고리리는?

```
SELECT fst.years, fst.category_name, fst.order_amt
FROM ( SELECT TO_CHAR(a.order_date, 'YYYY') years,
          d.category_name,
          SUM(b.quantity * b.list_price) order_amt
        FROM orders a,
             order_items b,
             products c,
             categories d
        WHERE a.order_id = b.order_id
              AND b.product_id = c.product_id
              AND c.category_id = d.category_id
        GROUP BY TO_CHAR(a.order_date, 'YYYY'),
                 d.category_name
      ) fst,
```

```
( SELECT years, MAX(order_amt) max_amt
  FROM ( SELECT TO_CHAR(a.order_date, 'YYYY') years,
                d.category_name,
                SUM(b.quantity * b.list_price) order_amt
          FROM orders a,
               order_items b,
               products c,
               categories d
          WHERE a.order_id = b.order_id
                AND b.product_id = c.product_id
                AND c.category_id = d.category_id
          GROUP BY TO_CHAR(a.order_date, 'YYYY'),
                   d.category_name
        )
      GROUP BY years
    ) sec
WHERE fst.years = sec.years
      AND fst.order_amt = sec.max_amt
ORDER BY 1, 2, 3;
```

2. 쿼리 실습(주문정보) – 서브쿼리 사용

(5) 연도별로 가장 많이 팔린 상품의 카테고리는?

	YEARS	CATEGORY_NAME	ORDER_AMT
1	2016	Mountain Bikes	1326765.61
2	2017	Mountain Bikes	1252294.36
3	2018	Road Bikes	691104.93

2. 쿼리 실습(주문정보) – 분석함수 사용

(6) 연도별로 가장 많이 팔린 상품의 카테고리리는?

```
SELECT years, category_name, order_amt
FROM ( SELECT years, category_name, order_amt,
             ROW_NUMBER() OVER ( PARTITION BY years
                                 ORDER BY order_amt DESC ) ranks
FROM ( SELECT TO_CHAR(a.order_date, 'YYYY') years,
             d.category_name, SUM(b.quantity * b.list_price) order_amt
FROM orders a, order_items b,
     products c, categories d
WHERE a.order_id = b.order_id
      AND b.product_id = c.product_id
      AND c.category_id = d.category_id
GROUP BY TO_CHAR(a.order_date, 'YYYY'), d.category_name
)
)
WHERE ranks = 1
ORDER BY 1;
```

	YE...	CATEGORY_NAME	ORDER_AMT
1	2016	Mountain Bikes	1326765.61
2	2017	Mountain Bikes	1252294.36
3	2018	Road Bikes	691104.93

2. 쿼리 실습(주문정보) – 분석함수 사용

(6) 연도별로 가장 많이 팔린 상품의 카테고리리는?

```
SELECT years, category_name, order_amt
FROM ( SELECT TO_CHAR(a.order_date, 'YYYY') years,
          d.category_name,
          SUM(b.quantity * b.list_price) order_amt,
          ROW_NUMBER() OVER ( PARTITION BY TO_CHAR(a.order_date, 'YYYY')
                               ORDER BY SUM(b.quantity * b.list_price) DESC ) ranks
FROM orders a, order_items b,
     products c, categories d
WHERE a.order_id = b.order_id
      AND b.product_id = c.product_id
      AND c.category_id = d.category_id
GROUP BY TO_CHAR(a.order_date, 'YYYY'), d.category_name
)
WHERE ranks = 1
ORDER BY 1;
```

	YE...	CATEGORY_NAME	ORDER_AMT
1	2016	Mountain Bikes	1326765.61
2	2017	Mountain Bikes	1252294.36
3	2018	Road Bikes	691104.93