

<Quiz>

1. employees 테이블과 departments 테이블로부터 모든 부서의 부서번호, 부서이름, 인원 수, 평균 급여와 각 부서에서 일하는 사원의 이름, 급여 및 직무를 출력하는 쿼리구문을 작성하시오. 부서번호를 기준으로 오름차순 정렬하여 출력하시오.

	DEPARTMENT_ID	DEPARTMENT_NAME	EMPLOYEES	AVG_SAL	LAST_NAME	SALARY	JOB_ID
1	10	Administration	1	4400.00	Whalen	4400	AD_ASST
2	20	Marketing	2	9500.00	Hartstein	13000	MK_MAN
3	20	Marketing	2	9500.00	Fay	6000	MK_REP
4	50	Shipping	5	3500.00	Davies	3100	ST_CLERK
5	50	Shipping	5	3500.00	Matos	2600	ST_CLERK
6	50	Shipping	5	3500.00	Rajs	3500	ST_CLERK
7	50	Shipping	5	3500.00	Mourgos	5800	ST_MAN
8	50	Shipping	5	3500.00	Yargas	2500	ST_CLERK
9	60	IT	3	6400.00	Hunold	9000	IT_PROG
10	60	IT	3	6400.00	Lorentz	4200	IT_PROG
11	60	IT	3	6400.00	Ernst	6000	IT_PROG
12	80	Sales	3	10033.33	Zlotkey	10500	SA_MAN
13	80	Sales	3	10033.33	Taylor	8600	SA_REP
14	80	Sales	3	10033.33	Abel	11000	SA_REP
15	90	Executive	3	19333.33	Kochhar	17000	AD_VP
16	90	Executive	3	19333.33	De Haan	17000	AD_VP
17	90	Executive	3	19333.33	King	24000	AD_PRES
18	110	Accounting	2	10150.00	Gietz	8300	AC_ACCOUNT
19	110	Accounting	2	10150.00	Higgins	12000	AC_MGR
20	(null)	(null)	0	No average	Grant	7000	SA_REP

```

SELECT d.department_id, d.department_name, count(e1.employee_id) employees,
       NVL(TO_CHAR(AVG(e1.salary), '99999.99'), 'No average' ) avg_sal,
       e2.last_name, e2.salary, e2.job_id
FROM departments d RIGHT OUTER JOIN employees e1
  ON d.department_id = e1.department_id
  RIGHT OUTER JOIN employees e2
  ON d.department_id = e2.department_id
GROUP BY d.department_id, d.department_name, e2.last_name, e2.salary, e2.job_id
ORDER BY d.department_id, employees;

```

2. employees 테이블로부터 평균 급여가 가장 높은 부서의 부서 번호와 최저 급여를 표시하는 쿼리구문을 작성하시오.

DEPARTMENT_ID	MIN(SALARY)
1	90 17000

```
SELECT department_id, MIN(salary)
FROM employees
GROUP BY department_id
HAVING AVG(salary) = (SELECT MAX(AVG(salary))
                      FROM employees
                      GROUP BY department_id);
```

3. employees 테이블과 departments 테이블로부터 HR 부서를 위해 통계 보고서를 작성합니다. 이 보고서에는 다음 조건의 부서에 대한 부서 번호, 부서 이름 및 근무하는 인원수를 출력합니다.

a) 인원수가 3명 미만인 부서:

```
SELECT d.department_id, d.department_name, COUNT(*)  
FROM departments d JOIN employees e  
ON d.department_id = e.department_id  
GROUP BY d.department_id, d.department_name  
HAVING COUNT(*) < 3;
```

b) 인원수가 가장 많은 부서:

```
SELECT d.department_id, d.department_name, COUNT(*)  
FROM departments d JOIN employees e  
ON d.department_id = e.department_id  
GROUP BY d.department_id, d.department_name  
HAVING COUNT(*) = (SELECT MAX(COUNT(*))  
                    FROM employees  
                    GROUP BY department_id);
```

c) 인원수가 가장 적은 부서:

```
SELECT d.department_id, d.department_name, COUNT(*)  
FROM departments d JOIN employees e  
ON d.department_id = e.department_id  
GROUP BY d.department_id, d.department_name  
HAVING COUNT(*) = (SELECT MIN(COUNT(*))  
                    FROM employees  
                    GROUP BY department_id);
```