

、作业

1、取得每个部门最高薪水的人员名称


```
+-----+-----+-----+
|  ename  |  sal    | deptno |
+-----+-----+-----+
|  BLAKE  | 2850.00 |    30  |
|  SCOTT  | 3000.00 |    20  |
|  KING   | 5000.00 |    10  |
|  FORD   | 3000.00 |    20  |
+-----+-----+-----+
4 rows in set (0.00 sec)
```

2、哪些人的薪水在部门的平均薪水之上

--

```
+-----+-----+
|  ename  |  sal    |
+-----+-----+
|  ALLEN  | 1600.00 |
|  JONES  | 2975.00 |
|  BLAKE  | 2850.00 |
|  SCOTT  | 3000.00 |
|  KING   | 5000.00 |
|  FORD   | 3000.00 |
+-----+-----+
6 rows in set (0.00 sec)
```

3、取得部门中（所有人的）平均的薪水等级，如下：

--

```
+-----+
| deptno | avg(grade) |
+-----+
|      10 |      3.6667 |
|      20 |      2.8000 |
|      30 |      2.5000 |
+-----+
3 rows in set (0.05 sec)
```

4、不准用组函数（Max），取得最高薪水（给出两种解决方案）

```
+-----+
| sal    |
+-----+
| 5000.00 |
+-----+
1 row in set (0.00 sec)
```

5、取得平均薪水最高的部门的部门编号（至少给出两种解决方案）

```
+-----+
| deptno |
+-----+
|      10 |
+-----+
1 row in set (0.00 sec)
```

6、取得平均薪水最高的部门的部门名称

```
+-----+
| dname   |
+-----+
| ACCOUNTING |
+-----+
1 row in set (0.00 sec)
```

7、求平均薪水的等级最低的部门的部门名称

```
+-----+
|  dname  |
+-----+
|  SALES  |
+-----+
1 row in set (0.00 sec)
```

8、取得比普通员工(员工代码没有在 mgr 字段上出现的)的最高薪水还要高的 领导人姓名

```
+-----+-----+
|  ename  |  sal   |
+-----+-----+
| JONES   | 2975.00 |
| BLAKE   | 2850.00 |
| CLARK   | 2450.00 |
| SCOTT   | 3000.00 |
| KING    | 5000.00 |
| FORD    | 3000.00 |
+-----+-----+
6 rows in set (0.00 sec)
```

9、取得薪水最高的前五名员工

```
+-----+-----+
|  ename  |  sal   |
+-----+-----+
| KING    | 5000.00 |
| SCOTT   | 3000.00 |
| FORD    | 3000.00 |
| JONES   | 2975.00 |
| BLAKE   | 2850.00 |
+-----+-----+
5 rows in set (0.00 sec)
```

10、取得薪水最高的第六到第十名员工

```
+-----+-----+
| ename  | sal    |
+-----+-----+
| CLARK  | 2450.00 |
| ALLEN  | 1600.00 |
| TURNER | 1500.00 |
| MILLER | 1300.00 |
| MARTIN | 1250.00 |
+-----+-----+
5 rows in set (0.00 sec)
```

11、取得最后入职的 5 名员工

```
+-----+-----+
| ename  | hiredate |
+-----+-----+
| ADAMS  | 1987-05-23 |
| SCOTT  | 1987-04-19 |
| MILLER | 1982-01-23 |
| FORD   | 1981-12-03 |
| JAMES  | 1981-12-03 |
+-----+-----+
5 rows in set (0.00 sec)
```

12、取得每个薪水等级有多少员工

```
+-----+-----+
| grade | count(*) |
+-----+-----+
| 1     | 3        |
| 2     | 3        |
| 3     | 2        |
| 4     | 5        |
| 5     | 1        |
+-----+-----+
5 rows in set (0.00 sec)
```

13、面试题

有 3 个表 S(学生表), C (课程表), SC (学生选课表)
S (SNO, SNAME) 代表 (学号, 姓名)

C (CNO, CNAME, CTEACHER) 代表 (课号, 课名, 教师)

SC (SNO, CNO, SCGRADE) 代表 (学号, 课号, 成绩)

问题:

- 1, 找出没选过“黎明”老师的所有学生姓名。
 - 2, 列出 2 门以上 (含 2 门) 不及格学生姓名及平均成绩。
 - 3, 即学过 1 号课程又学过 2 号课所有学生的姓名。
- 请用标准 SQL 语言写出答案, 方言也行 (请说明是使用什么方言)。

```
CREATE TABLE SC
(
    SNO      VARCHAR(200),
    CNO      VARCHAR(200),
    SCGRADE  VARCHAR(200)
);

CREATE TABLE S
(
    SNO      VARCHAR(200),
    SNAME    VARCHAR(200)
);

CREATE TABLE C
(
    CNO      VARCHAR(200),
    CNAME    VARCHAR(200),
    CTEACHER VARCHAR(200)
);

INSERT INTO C (CNO, CNAME, CTEACHER) VALUES ('1', '语文', '张');
INSERT INTO C (CNO, CNAME, CTEACHER) VALUES ('2', '政治', '王');
INSERT INTO C (CNO, CNAME, CTEACHER) VALUES ('3', '英语', '李');
INSERT INTO C (CNO, CNAME, CTEACHER) VALUES ('4', '数学', '赵');
INSERT INTO C (CNO, CNAME, CTEACHER) VALUES ('5', '物理', '黎明');
commit;

INSERT INTO S (SNO, SNAME) VALUES ('1', '学生 1');
INSERT INTO S (SNO, SNAME) VALUES ('2', '学生 2');
INSERT INTO S (SNO, SNAME) VALUES ('3', '学生 3');
INSERT INTO S (SNO, SNAME) VALUES ('4', '学生 4');
commit;

INSERT INTO SC (SNO, CNO, SCGRADE) VALUES ('1', '1', '40');
INSERT INTO SC (SNO, CNO, SCGRADE) VALUES ('1', '2', '30');
INSERT INTO SC (SNO, CNO, SCGRADE) VALUES ('1', '3', '20');
INSERT INTO SC (SNO, CNO, SCGRADE) VALUES ('1', '4', '80');
```

```
INSERT INTO SC ( SNO, CNO, SCGRADE ) VALUES ( '1', '5', '60');
INSERT INTO SC ( SNO, CNO, SCGRADE ) VALUES ( '2', '1', '60');
INSERT INTO SC ( SNO, CNO, SCGRADE ) VALUES ( '2', '2', '60');
INSERT INTO SC ( SNO, CNO, SCGRADE ) VALUES ( '2', '3', '60');
INSERT INTO SC ( SNO, CNO, SCGRADE ) VALUES ( '2', '4', '60');
INSERT INTO SC ( SNO, CNO, SCGRADE ) VALUES ( '2', '5', '40');
INSERT INTO SC ( SNO, CNO, SCGRADE ) VALUES ( '3', '1', '60');
INSERT INTO SC ( SNO, CNO, SCGRADE ) VALUES ( '3', '3', '80');
commit;
```

问题 1.找出没选过“黎明”老师的所有学生姓名。

即:

sname
学生3
学生4

问题 2:列出 2 门以上（含 2 门）不及格学生姓名及平均成绩。

问题 3:即学过 1 号课程又学过 2 号课所有学生的姓名。

14、列出所有员工及领导的姓名

```
+-----+-----+
|  ename  | ifnull(m.ename, '没有上级') |
+-----+-----+
| SMITH   | FORD                        |
| ALLEN   | BLAKE                       |
| WARD    | BLAKE                       |
| JONES   | KING                        |
| MARTIN  | BLAKE                       |
| BLAKE   | KING                        |
| CLARK   | KING                        |
| SCOTT   | JONES                       |
| KING    | 没有上级                    |
| TURNER  | BLAKE                       |
| ADAMS   | SCOTT                       |
| JAMES   | BLAKE                       |
| FORD    | JONES                       |
| MILLER  | CLARK                       |
+-----+-----+
14 rows in set (0.00 sec)
```

15、列出受雇日期早于其直接上级所有员工的编号,姓名,部门名称

```

+-----+-----+-----+
| empno | ename_e | dname |
+-----+-----+-----+
| 7369   | SMITH   | RESEARCH |
| 7499   | ALLEN   | SALES |
| 7521   | WARD    | SALES |
| 7566   | JONES   | RESEARCH |
| 7698   | BLAKE   | SALES |
| 7782   | CLARK   | ACCOUNTING |
+-----+-----+-----+
6 rows in set (0.00 sec)

```

16、列出部门名称和这些部门的员工信息,同时列出那些没有员工的部门.

```

mysql> select d.dname,e.* from emp e right join dept d on e.deptno = d.deptno;
+-----+-----+-----+-----+-----+-----+-----+-----+
| dname | EMPNO | ENAME | JOB | MGR | HIREDATE | SAL | COMM | DEPTNO |
+-----+-----+-----+-----+-----+-----+-----+-----+
| ACCOUNTING | 7782 | CLARK | MANAGER | 7839 | 1981-06-09 | 2450.00 | NULL | 10 |
| ACCOUNTING | 7839 | KING | PRESIDENT | NULL | 1981-11-17 | 5000.00 | NULL | 10 |
| ACCOUNTING | 7934 | MILLER | CLERK | 7782 | 1982-01-23 | 1300.00 | NULL | 10 |
| RESEARCH | 7369 | SMITH | CLERK | 7902 | 1980-12-17 | 800.00 | NULL | 20 |
| RESEARCH | 7566 | JONES | MANAGER | 7839 | 1981-04-02 | 2975.00 | NULL | 20 |
| RESEARCH | 7788 | SCOTT | ANALYST | 7566 | 1987-04-19 | 3000.00 | NULL | 20 |
| RESEARCH | 7876 | ADAMS | CLERK | 7788 | 1987-05-23 | 1100.00 | NULL | 20 |
| RESEARCH | 7902 | FORD | ANALYST | 7566 | 1981-12-03 | 3000.00 | NULL | 20 |
| SALES | 7499 | ALLEN | SALESMAN | 7698 | 1981-02-20 | 1600.00 | 300.00 | 30 |
| SALES | 7521 | WARD | SALESMAN | 7698 | 1981-02-22 | 1250.00 | 500.00 | 30 |
| SALES | 7654 | MARTIN | SALESMAN | 7698 | 1981-09-28 | 1250.00 | 1400.00 | 30 |
| SALES | 7698 | BLAKE | MANAGER | 7839 | 1981-05-01 | 2850.00 | NULL | 30 |
| SALES | 7844 | TURNER | SALESMAN | 7698 | 1981-09-08 | 1500.00 | 0.00 | 30 |
| SALES | 7900 | JAMES | CLERK | 7698 | 1981-12-03 | 950.00 | NULL | 30 |
| OPERATIONS | NULL | NULL | NULL | NULL | NULL | NULL | NULL | NULL |
+-----+-----+-----+-----+-----+-----+-----+-----+
15 rows in set (0.00 sec)

```

17、列出至少有 5 个员工的所有部门

```

+-----+-----+
| dname | count(*) |
+-----+-----+
| RESEARCH | 5 |
| SALES | 6 |
+-----+-----+
2 rows in set (0.00 sec)

```

18、列出薪金比"SMITH"多的所有员工信息.

```

+-----+-----+-----+-----+-----+-----+-----+
| EMPNO | ENAME | JOB      | MGR | HIREDATE | SAL      | COMM      | DEPTNO |
+-----+-----+-----+-----+-----+-----+-----+
| 7499 | ALLEN | SALESMAN | 7698 | 1981-02-20 | 1600.00 | 300.00 | 30 |
| 7521 | WARD  | SALESMAN | 7698 | 1981-02-22 | 1250.00 | 500.00 | 30 |
| 7566 | JONES | MANAGER  | 7839 | 1981-04-02 | 2975.00 | NULL    | 20 |
| 7654 | MARTIN | SALESMAN | 7698 | 1981-09-28 | 1250.00 | 1400.00 | 30 |
| 7698 | BLAKE | MANAGER  | 7839 | 1981-05-01 | 2850.00 | NULL    | 30 |
| 7782 | CLARK | MANAGER  | 7839 | 1981-06-09 | 2450.00 | NULL    | 10 |
| 7788 | SCOTT | ANALYST  | 7566 | 1987-04-19 | 3000.00 | NULL    | 20 |
| 7839 | KING  | PRESIDENT | NULL | 1981-11-17 | 5000.00 | NULL    | 10 |
| 7844 | TURNER | SALESMAN | 7698 | 1981-09-08 | 1500.00 | 0.00    | 30 |
| 7876 | ADAMS | CLERK    | 7788 | 1987-05-23 | 1100.00 | NULL    | 20 |
| 7900 | JAMES | CLERK    | 7698 | 1981-12-03 | 950.00  | NULL    | 30 |
| 7902 | FORD  | ANALYST  | 7566 | 1981-12-03 | 3000.00 | NULL    | 20 |
| 7934 | MILLER | CLERK    | 7782 | 1982-01-23 | 1300.00 | NULL    | 10 |
+-----+-----+-----+-----+-----+-----+-----+
13 rows in set (0.00 sec)

```

19、列出所有"CLERK"(办事员)的姓名及其部门名称,部门的人数.

```

+-----+-----+-----+
| ename | dname | cc |
+-----+-----+-----+
| SMITH | RESEARCH | 5 |
| ADAMS | RESEARCH | 5 |
| JAMES | SALES    | 6 |
| MILLER | ACCOUNTING | 3 |
+-----+-----+-----+
4 rows in set (0.00 sec)

```

20、列出最低薪金大于 1500 的各种工作及从事此工作的全部雇员人数.

```

+-----+-----+
| job | count(e.empno) |
+-----+-----+
| ANALYST | 2 |
| MANAGER | 3 |
| PRESIDENT | 1 |
+-----+-----+
3 rows in set (0.00 sec)

```

21、列出在部门"SALES"<销售部>工作的员工的姓名,假定不知道销售部的部门编号.


```

+-----+
|  ename  |
+-----+
|  ALLEN  |
|  WARD   |
|  MARTIN |
|  BLAKE  |
|  TURNER |
|  JAMES  |
+-----+
6 rows in set (0.05 sec)

```

22、列出薪金高于公司平均薪金的所有员工,所在部门,上级领导,雇员的工资等级.

姓名	部门名称	上级领导	工资等级
JONES	RESEARCH	KING	4
BLAKE	SALES	KING	4
CLARK	ACCOUNTING	KING	4
SCOTT	RESEARCH	JONES	4
KING	ACCOUNTING	无	5
FORD	RESEARCH	JONES	4

已选择6行。

23、列出与"SCOTT"从事相同工作的所有员工及部门名称.

```

+-----+-----+
|  ename  |  dname  |
+-----+-----+
|  FORD   | RESEARCH |
+-----+-----+
1 row in set (0.00 sec)

```

24、列出薪金等于部门 30 中员工的薪金的其他员工的姓名和薪金.

25、列出薪金高于在部门 30 工作的所有员工的薪金的员工姓名和薪金.部门名称.

```

+-----+-----+-----+
| ename | sal   | dname |
+-----+-----+-----+
| JONES | 2975.00 | RESEARCH |
| SCOTT | 3000.00 | RESEARCH |
| KING  | 5000.00 | ACCOUNTING |
| FORD  | 3000.00 | RESEARCH |
+-----+-----+-----+
1 rows in set (0.02 sec)
    
```

26、列出在每个部门工作的员工数量,平均工资和平均服务期限.

ACCOUNTING	3	2916.67	33
RESEARCH	5	2175.00	31
SALES	6	1566.67	33

27、列出所有员工的姓名、部门名称和工资。

```

+-----+-----+-----+
| ename | dname   | sal   |
+-----+-----+-----+
| CLARK  | ACCOUNTING | 2450.00 |
| KING   | ACCOUNTING | 5000.00 |
| MILLER | ACCOUNTING | 1300.00 |
| SMITH  | RESEARCH  | 800.00  |
| JONES  | RESEARCH  | 2975.00 |
| SCOTT  | RESEARCH  | 3000.00 |
| ADAMS  | RESEARCH  | 1100.00 |
| FORD   | RESEARCH  | 3000.00 |
| ALLEN  | SALES     | 1600.00 |
| WARD   | SALES     | 1250.00 |
| MARTIN | SALES     | 1250.00 |
| BLAKE  | SALES     | 2850.00 |
| TURNER | SALES     | 1500.00 |
| JAMES  | SALES     | 950.00  |
+-----+-----+-----+
14 rows in set (0.00 sec)
    
```

28、列出所有部门的详细信息和人数

```

+-----+-----+-----+-----+
| DEPTNO | DNAME   | LOC    | 人数 |
+-----+-----+-----+-----+
| 10      | ACCOUNTING | NEW YORK | 3 |
| 20      | RESEARCH  | DALLAS  | 5 |
| 30      | SALES     | CHICAGO | 6 |
| 40      | OPERATIONS | BOSTON  | 0 |
+-----+-----+-----+-----+
4 rows in set (0.05 sec)

```

29、列出各种工作的最低工资及从事此工作的雇员姓名

```

+-----+-----+-----+-----+-----+-----+-----+-----+
| EMPNO | ENAME   | JOB      | MGR | HIREDATE   | SAL    | COMM | DEPTNO |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 7369   | SMITH   | CLERK    | 7902 | 1980-12-17 | 800.00 | NULL | 20 |
| 7521   | WARD    | SALESMAN | 7698 | 1981-02-22 | 1250.00 | 500.00 | 30 |
| 7654   | MARTIN  | SALESMAN | 7698 | 1981-09-28 | 1250.00 | 1400.00 | 30 |
| 7782   | CLARK   | MANAGER  | 7839 | 1981-06-09 | 2450.00 | NULL | 10 |
| 7788   | SCOTT   | ANALYST  | 7566 | 1987-04-19 | 3000.00 | NULL | 20 |
| 7839   | KING    | PRESIDENT | NULL | 1981-11-17 | 5000.00 | NULL | 10 |
| 7902   | FORD    | ANALYST  | 7566 | 1981-12-03 | 3000.00 | NULL | 20 |
+-----+-----+-----+-----+-----+-----+-----+-----+
7 rows in set (0.00 sec)

```

30、列出各个部门的 MANAGER(领导)的最低薪金

```

+-----+-----+
| deptno | min(sal) |
+-----+-----+
| 10      | 2450.00 |
| 20      | 2975.00 |
| 30      | 2850.00 |
+-----+-----+
3 rows in set (0.00 sec)

```

31、列出所有员工的年工资,按年薪从低到高排序

```
+-----+-----+
| ename | income |
+-----+-----+
| SMITH | 9600.00 |
| JAMES | 11400.00 |
| ADAMS | 13200.00 |
| MILLER | 15600.00 |
| TURNER | 18000.00 |
| WARD | 21000.00 |
| ALLEN | 22800.00 |
| CLARK | 29400.00 |
| MARTIN | 31800.00 |
| BLAKE | 34200.00 |
| JONES | 35700.00 |
| FORD | 36000.00 |
| SCOTT | 36000.00 |
| KING | 60000.00 |
+-----+-----+
14 rows in set (0.00 sec)
```

32、求出员工领导的薪水超过 3000 的员工名称与领导名称

```
+-----+-----+
| ename | ename |
+-----+-----+
| JONES | KING |
| BLAKE | KING |
| CLARK | KING |
+-----+-----+
3 rows in set (0.00 sec)
```

33、求出部门名称中,带'S'字符的部门员工的工资合计、部门人数.

```
-----
OPERATIONS                0
RESEARCH                10875    5
SALES                    9400    6
```

34、给任职日期超过 30 年的员工加薪 10%.