

Oracle 查询优化改写技巧与案例

第2章

2.1 以指定的次序返回查询结果

eg : order by 3 : 按第三列排序

```
select empno, ename, hiredate from emp where deptno = 10 order by 3 asc;
```

note : 用数字代替列位置只用于order by 子句中, 其他地方都不能用。

2.3 按子串排序

eg : 按照电话尾号排序

```
select last_name as 名称, phone_number as 号码, salary as 工资, substr(phone_number, -4) as 尾号 from hr.employees where rownum <= 5 order by 4;
```

2.4 TRANSLATE

语法 : translate(expr, from_string, to_string)

eg :

```
select translate('ab 你好 bcadefg', 'abcdefg', '1234567') as new_str from dual;
```

eg :

```
select translate('ab 你好 bcadefg', 'abcdefg', '') as new_str from dual;
```

eg :

```
select translate('ab 你好 bcadefg', '1abcdefg', '1') as new_str from dual;
```

2.5 按数字和字母混合字符串中的字母排序

先创建视图 :

```
create or replace view v as
```

```
select empno || ' ' || ename as data from emp;
```

```
select * from v;
```

eg :

```
select data, translate(data, '- 0123456789', '- ') as ename from v order by 2;
```

2.6 处理排序空值

eg :

```
select ename, sal, comm, nvl(comm, -1) order_col from emp order by 4;
```

eg : 空值在前

```
select ename, sal, comm from emp order by 3 nulls first;
```

eg : 空值在后

```
select ename, sal, comm from emp order by 3 nulls last;
```

2.7 根据条件取不同列中的值来排序

eg :

```
select empno as 编码, ename as 姓名, casewhen sal >= 1000 and sal < 2000 then 1 else 2 end as 级别, sal as 工资 from emp where deptno = 30 order by 3, 4;
```

eg :

```
select empno as 编码, ename as 姓名, sal as 工资, from emp where deptno = 30 order by case when sal >= 1000 and sal < 2000 then 1 else 2 end, 3;
```

eg :

```
select ' ' as c1 from dual;
```

eg :

```
select 'a' as c1 from dual union all select ' ' as c1 from dual;
```

第1章

1.3 查找空值

eg :

```
select * from emp where comm is null;
```

NULL 不支持加减乘除，大小，相等比较，否则只能为空。

对于其他函数，使用时，最好先试一下有NULL时会有什么效果。

eg :

```
select replace('abcde', 'a', NULL) as str from dual;
```

```
select greatest(1, null) from dual;
```

1.4 将空值转换为实际值

eg :

```
select coalesce(comm, 0) from emp;
```

相对nvl来说，coalesce支持多个参数，能很方便地返回第一个不为空的值。

eg :

```
create or replace view v as
```

```
select null as c1, null as c2, 1 as c3, null as c4, 2 as c5, null as c6 from dual
```

```
union all
```

```
select null as c1, null as c2, null as c3, 3 as c4, null as c5, 2 as c6 from dual;
```

eg :

```
select nvl(nvl(nvl(nvl(nvl(c1,c2),c3),c4),c5),c6) as c from dual;
```

1.8 在where字句中引用取别名的列

eg :

```
select *
```

```
from (select sal as 工资, comm as 提出 from emp) x
```

```
where 工资 < 1000;
```

note : 必须要嵌套一层，否则会报错，标识符无效。

1.9 拼接列

eg :

```
select ename || ' 的工作是 ' || job as msg from emp where deptno = 10;
```

eg : 拼接SQL

```
select 'truncate table ' || owner || '.' || table_name || ';' as 清空表 from all_tables where owner = 'SCOTT';
```

1.10 在SELECT语句中使用条件逻辑

eg :

```
select ename, sal, case when sal <= 2000 then '过低' when sal >= 4000 then '过高' else 'OK' end as status from emp where deptno = 10;
```

eg :

```
select 档次, count(*) as 人数 from (select (case when sal <= 1000 then '0000-1000' when sal <= 2000 then '1000-2000' when sal <= 3000 then '2000-3000' when sal <= 4000 then '3000-4000' when sal <= 5000 then '4000-5000' else '好高' end) as 档次, ename, sal from emp) group by 档次 order by 1;
```

1.11 限制返回的行数

eg :

```
select * from emp where rownum <= 2;
```

eg :

```
select * from (select rownum as sn, emp.* from emp where rownum <= 2) where sn = 2;
```

1.12 从表中随机返回n条记录

eg : 先用dbms_random对数据进行随机排序，然后取出其中三行。

```
select empno, ename from (select empno, ename from emp order by dbms_random.value()) where rownum <= 3;
```

1.13 模糊查询

先建立视图 :

```
create or replace view v as
```

```
select 'ABCDEF' as vname from dual
```

```
union all
```

```
select '_BCEGF' as vname from dual
```

```
union all
```

```
select '_BCEDF' as vname from dual
union all
select '_\BCEDF' as vname from dual
union all
select 'XYCEG' as vname from dual;
```

eg : 查出vname中包含字符串“CED”的

```
select * from v where vname like '%CED%';
```

eg : 查出vname中包含字符串“_BCE”的

```
select * from v where vname like '_BCE%' escape '\';
```

note : escape 把'\'标识为转义字符, 而'\'把'_'转义为字符, 而非其原意(通配符)。

eg : 查出vname中包含字符串“_\BCEDF”d

```
select * from v where vname like '_\BCEDF%' escape '\';
```