

# 数据库第四次作业

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- 数据库第四次作业
  - 1. 写出创建相应表格的SQL语句
    - 创建表
    - 插入数据
    - 列出工资从高到低排序的第3-5名员工
  - 关闭外键约束，插入很坏很坏的数据，看看长啥样
  - 导出EMP到EXCEL中

## 1. 写出创建相应表格的SQL语句

### 创建表

```
create table student(  
    ID varchar2(8) not null,  
    NAME varchar2(8) not null,  
    DEPT varchar2(20),  
    AGE number(3),  
    primary key(ID)  
);  
  
create table class(  
    ID varchar2(8) not null,  
    NAME varchar2(20) not null,  
    PRE varchar2(8),  
    primary key(ID)  
);  
  
create table score(  
    SID varchar2(8) not null,  
    CID varchar2(8) not null,  
    SCORE number(3) check (  
        SCORE BETWEEN 0 AND 100  
    ),  
    foreign key (SID) references student(ID),  
    foreign key (CID) references class(ID),  
    primary key (SID, CID)  
);
```

创建表的截图如下：

终端 问题 输出 调试控制台

SQL\*Plus: Release 11.2.0.1.0 Production on 星期五 3月 11 14:49:22 2022

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连接到:

Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 - 64bit Production  
With the Partitioning, OLAP, Data Mining and Real Application Testing options

```
SQL = create table student(
  2     ID varchar2(8) not null,
  3     NAME varchar2(8) not null,
  4     DEPT varchar2(20),
  5     AGE number(3),
  6     primary key(ID)
  7 );
```

表已创建。

```
SQL =
SQL = create table class(
  2     ID varchar2(8) not null,
  3     NAME varchar2(20) not null,
  4     PRE varchar2(8),
  5     primary key(ID)
  6 );
```

表已创建。

```
SQL =
SQL = create table score(
  2     SID varchar2(8) not null,
  3     CID varchar2(8) not null,
  4     SCORE number(3) check (
  5         SCORE BETWEEN 0 AND 100
  6     ),
  7     foreign key (SID) references student(ID),
  8     foreign key (CID) references class(ID),
  9     primary key (SID, CID)
 10 );
```

表已创建。

SQL = █

## 插入数据

创建ctl文件

```
OPTIONS (skip=0)
load data
INFILE 'student_data.csv'
insert into table student
FIELDS TERMINATED BY ',' '
trailing nullcols (
    ID,
    NAME,
    DEPT,
    AGE
)
.....(略去其他两个ctl文件)
```

在 terminal 中，输入：

```
sqlldr scott/tiger control=Load.ctl
```

现在我们来查看导入效果：

终端 问题 输出 调试控制台

SQL = SELECT \* FROM STUDENT;

ID	NAME	DEPT	AGE
S1	A	CS	20
S2	B	CS	21
S3	C	MA	19
S4	D	PH	19
S5	E	MA	20
S6	F	CS	22

已选择6行。

SQL = SELECT \* FROM CLASS;

ID	NAME	PRE
C1	G	NULL
C2	H	C1
C3	I	C1
C4	J	C2
C5	K	C4

SQL = SELECT \* FROM SCORE;

SID	CID	SCORE
S1	C1	100
S1	C2	100
S1	C3	100
S1	C5	80
S2	C1	80
S2	C2	60
S2	C4	60
S3	C2	80
S3	C3	60
S3	C4	80
S4	C3	80
S4	C5	40
S5	C2	60
S5	C3	80
S5	C5	80
S6	C4	100
S6	C5	100

已选择17行。

SQL = █

略去插入错误数据的部分。

## 列出工资从高到低排序的第3-5名员工

```

SELECT * FROM (
  SELECT * FROM (
    SELECT * FROM EMP
      ORDER BY SAL+NVL(COMM, 0) DESC
  ) WHERE ROWNUM <= 5 MINUS SELECT * FROM (
    SELECT * FROM EMP
      ORDER BY SAL+NVL(COMM, 0) DESC
  ) WHERE ROWNUM <= 2
) ORDER BY SAL+NVL(COMM, 0) DESC;

```

效果如下：

终端

问题

输出

调试控制台

SQL = SELECT \* FROM (  
2 SELECT \* FROM (  
3 SELECT \* FROM EMP  
4 ORDER BY SAL+NVL(COMM, 0) DESC  
5 ) WHERE ROWNUM <= 5 MINUS SELECT \* FROM (  
6 SELECT \* FROM EMP  
7 ORDER BY SAL+NVL(COMM, 0) DESC  
8 ) WHERE ROWNUM <= 2  
9 ) ORDER BY SAL+NVL(COMM, 0) DESC;

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7902	FORD	ANALYST	7566	03-12月-81	3000		20
7566	JONES	MANAGER	7839	02-4月 -81	2975		20
7698	BLAKE	MANAGER	7839	01-5月 -81	2850		30

SQL = █

## 关闭外键约束，插入很坏很坏的数据，看看长啥样

查询外键约束命名：

```

SELECT
'alter table '||table_name||' enable constraint '||constraint_name||';'
FROM user_constraints WHERE
constraint_type='R';

```

修改约束：

```
alter table SCORE disable constraint SYS_C0011443;
```

插入数据：

```

INSERT INTO SCORE
VALUES (
  'S7',
  'C1',
  100
);

```

开启约束

```
alter table SCORE enable constraint SYS_C0011443;
```

```
SQL = SELECT * FROM SCORE WHERE CID = 'C1';
```

SID	CID	SCORE
S7	C1	100
S1	C1	100
S2	C1	80

```
SQL = alter table SCORE enable constraint SYS_C0011443;  
alter table SCORE enable constraint SYS_C0011443
```

第 1 行出现错误：  
ORA-02298: 无法验证 (SCOTT.SYS\_C0011443) - 未找到父项关键字

```
SQL =
```

删除坏数据，再开启约束

```
SQL = DELETE FROM SCORE WHERE SID = 'S7';
```

已删除 1 行。

```
SQL = alter table SCORE enable constraint SYS_C0011443;
```

表已更改。

```
SQL =
```

## 导出EMP到EXCEL中

```
set colsep ,  
set feedback off  
set heading off  
set newp none  
set pagesize 0  
set linesize 200  
set trimout on  
  
spool EMP.CSV  
  
select * from EMP;  
  
spool off  
exit
```

效果如下：

EMP.CSV

```
1 SQL = select * from EMP;
2      7369,SMITH      ,CLERK      ,      7902,17-12月-80      ,      800,      ,      20
3      7499,ALLEN      ,SALESMAN ,      7698,20-2月 -81      ,      1600,      300,      30
4      7521,WARD      ,SALESMAN ,      7698,22-2月 -81      ,      1250,      500,      30
5      7566,JONES      ,MANAGER  ,      7839,02-4月 -81      ,      2975,      ,      20
6      7654,MARTIN     ,SALESMAN ,      7698,28-9月 -81      ,      1250,      1400,      30
7      7698,BLAKE      ,MANAGER  ,      7839,01-5月 -81      ,      2850,      ,      30
8      7782,CLARK      ,MANAGER  ,      7839,09-6月 -81      ,      2450,      ,      10
9      7788,SCOTT      ,ANALYST  ,      7566,19-4月 -87      ,      3000,      ,      20
10     7839,KING      ,PRESIDENT,      ,17-11月-81      ,      5000,      ,      10
11     7844,TURNER     ,SALESMAN ,      7698,08-9月 -81      ,      1500,      0,      30
12     7876,ADAMS      ,CLERK    ,      7788,23-5月 -87      ,      1100,      ,      20
13     7900,JAMES      ,CLERK    ,      7698,03-12月-81      ,      950,      ,      30
14     7902,FORD      ,ANALYST  ,      7566,03-12月-81      ,      3000,      ,      20
15     7934,MILLER     ,CLERK    ,      7782,23-1月 -82      ,      1300,      ,      10
16 SQL = spool off
17
```

终端 问题 输出 调试控制台

```
SQL = set trimout on
SQL =
SQL = spool EMP.CSV
SQL = select * from EMP;
7369,SMITH      ,CLERK      ,      7902,17-12月-80      ,      800,      ,      20
7499,ALLEN      ,SALESMAN ,      7698,20-2月 -81      ,      1600,      300,      30
7521,WARD      ,SALESMAN ,      7698,22-2月 -81      ,      1250,      500,      30
7566,JONES      ,MANAGER  ,      7839,02-4月 -81      ,      2975,      ,      20
7654,MARTIN     ,SALESMAN ,      7698,28-9月 -81      ,      1250,      1400,      30
7698,BLAKE      ,MANAGER  ,      7839,01-5月 -81      ,      2850,      ,      30
7782,CLARK      ,MANAGER  ,      7839,09-6月 -81      ,      2450,      ,      10
7788,SCOTT      ,ANALYST  ,      7566,19-4月 -87      ,      3000,      ,      20
7839,KING      ,PRESIDENT,      ,17-11月-81      ,      5000,      ,      10
7844,TURNER     ,SALESMAN ,      7698,08-9月 -81      ,      1500,      0,      30
7876,ADAMS      ,CLERK    ,      7788,23-5月 -87      ,      1100,      ,      20
7900,JAMES      ,CLERK    ,      7698,03-12月-81      ,      950,      ,      30
7902,FORD      ,ANALYST  ,      7566,03-12月-81      ,      3000,      ,      20
7934,MILLER     ,CLERK    ,      7782,23-1月 -82      ,      1300,      ,      10
SQL = spool off
```