20171213第十五周上机参考答案

设计一个存储过程，使用事务，删除一个给定代码的院系信息，在department表中删除对应记录后，删除students表中该院系的所有学生，teacher表中该院系的所有教师。

答：

use edu

go

create procedure del\_department(@tdno char(6))

as

begin

begin transaction

delete from department where dno = @tdno

delete from student where dno = @tdno

delete from teacher where dno = @tdno

commit transaction

end

测试：

use edu

go

select \* from department

go

select \* from student

go

select \* from teacher

go

exec del\_department '4'

select \* from department

go

select \* from student

go

select \* from teacher

go

设计一个AFTER触发器，使用事务，当往student表中插入一条记录后，自动将department表中对应院系的学生人数(stu\_num)加1。

insert into student

(sno,sname,sex,[native],birthday,pno,dno,classno,entime,home,tel)

values

('20101001','张三','男','河北沧州','1989-03-15 ','2','1','2','2010-9-1','河北省沧州市',NULL),

('20101002','张强','男','河北邢台','1990-05-01 ','2','1','2','2010-9-1','河北省邢台市','13145322345'),

('20101003','张小兵','男','山东济南','1991-05-02 ','1','2','4','2010-9-1','河北省唐山市',NULL),

('20101004','李燕','女','山东济南','1991-05-02 ',NULL,'2','1','2010-9-1','山东省济南市','15194598762'),

('20101005','李晓','女','山东德州','1991-05-02 ','1','2','4','2010-9-1','山东省德州市','15394598762'),

('20101006','上官青','女','陕西西安','1993-05-02 ','3','3','1','2010-9-1','陕西省西安市',NULL),

('20101007','李晓芳','女','陕西西安','1993-05-02 ','3','1','1','2010-9-1','陕西省西安市','15867598762'),

('20101008','上官文宏','女','北京市','1988-05-02 ',NULL,'3','3','2010-9-1','北京市','15897598762'),

('20101009','上官文宏','女','河北保定','1988-05-02 ','3','3','1','2010-9-1','山东省青岛市','15897598762'),

('20101010','张倩','女','河北保定','1988-11-02 ','1','2','3','2010-9-1','河北省保定市','13897595671'),

('20101011','刘英伟','男','河北保定','1988-11-02 ',NULL,'3','2','2010-9-1','河北省保定市','15197595671'),

('20101012','刘伟','男','河北保定','1989-11-02 ','1','2','2','2010-9-1','河北省保定市','15397595671'),

('20101013','翟南','男','上海市','1989-11-21 ','3','4','3','2010-9-1','上海市','137093837332'),

('20101014','窦士厝','男','云南昆明','1988-10-02 ','3','4','1','2010-9-1','云南省昆明市','131311948930')

GO

答：

use edu

go

use edu

go

drop trigger tr\_insertstudent

go

create trigger tr\_insertstudent

on student

for insert

as

begin

declare cur\_ins cursor static

for select dno from inserted

open cur\_ins

Declare @tdno char(6)

fetch next from cur\_ins into @tdno

while @@FETCH\_STATUS=0

begin

if NOT exists(select dno from department where dno=@tdno)

begin

print '查无此院系，无法插入学生记录'

ROLLBACK TRANSACTION

return

end

else

begin

update department set stu\_num = stu\_num + 1 where dno = @tdno

end

fetch next from cur\_ins into @tdno

end

commit transaction

return

end

设计一个存储过程，使用事务，在student表中删除给定学号的学生记录，然后将department表中对应院系的学生人数(stu\_num)减1。

答：

use edu

go

create procedure del\_student(@tsno char(8))

as

begin

declare @tdno char(6)

begin transaction

select @tdno = dno from student where sno = @tsno

delete from student where sno = @tsno

update department set stu\_num = stu\_num - 1 where dno = @tdno

commit transaction

end

1. 设计一个触发器，使用事务，在student\_course表中插入一条学生选课记录，在插入成功后，将course表中对应课程的当前人数（cur\_num）加1，判断当前人数是否超过选修人数上限(stulimits)，如果超过，则回滚事务，否则提交事务。如果学号和课程编号不合法，也回滚事务。

insert into student\_course

(sno,cno,score)

values

('20101001','1',90),

('20101001','2',70),

('20101001','3',95),

('20101001','4',90),

('20101001','5',88),

('20101001','6',NULL),

('20101001','7',NULL),

('20101002','2',65),

('20101002','4',89),

('20101002','6',NULL),

('20101003','2',90),

('20101003','3',89),

('20101003','4',90),

('20101004','2',65),

('20101004','4',87),

('20101004','5',90),

('20101004','6',NULL),

('20101005','4',92),

('20101005','6',NULL),

('20101007','4',90),

('20101007','5',88),

('20101007','6',NULL),

('20101009','2',80),

('20101010','3',75),

('20101010','5',88),

('20101009','7',80),

('20101004','7',70),

('20101003','7',86)

go

答：

use edu

go

create trigger tr\_insertscore

on student\_course

for insert

as

begin

declare cur\_ins cursor static

for select sno,cno from inserted

open cur\_ins

Declare @tsno char(8), @tcno char(10)

declare @limit tinyint, @tnum tinyint

fetch next from cur\_ins into @tsno,@tcno

while @@FETCH\_STATUS=0

begin

if NOT exists(select sno from student where sno=@tsno)

begin

print '查无此人，无法插入成绩记录'

ROLLBACK TRANSACTION

Close cur\_ins

Deallocate cur\_ins

return

end

else

if not exists(select cno from course where cno=@tcno)

begin

print '查无此课程，无法插入成绩记录'

rollback transaction

Close cur\_ins

Deallocate cur\_ins

return

end

else

begin

select @limit=stulimits, @tnum=cur\_num from course where cno=@tcno

if @tnum >= @limit

begin

print '选修人数已经到达上限，无法选修课程'

rollback transaction

Close cur\_ins

Deallocate cur\_ins

return

end

else

begin

print @tsno+@tcno+'成绩插入成功'

end

end

fetch next from cur\_ins into @tsno,@tcno

end

print '成绩插入成功'

commit transaction

return

end