物理结构设计及系统实现

课题名称： 在线考试系统

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6物理设计

//question\_bank表添加索引

create index degree\_index

on question\_bank(degree)

//paper\_solution表添加索引

create index index\_ps

on paper\_solution(sid,piid)

//paper\_question表添加索引

create index index\_pq

on paper\_question(piid,qbid)

# 7系统SQL实现

## 7.1表的创建

/\*==============================================================\*/

/\* Table: admin \*/

/\*==============================================================\*/

create table admin (

Mid int not null,

Mpwd varchar(16) not null,

Mname varchar(15) not null,

Mmobile varchar(11) not null,

constraint PK\_ADMIN primary key (Mid)

)

go

/\*==============================================================\*/

/\* Table: course \*/

/\*==============================================================\*/

create table course (

Cid int not null,

Cname varchar(15) not null,

constraint PK\_COURSE primary key (Cid)

)

go

/\*==============================================================\*/

/\* Table: exam\_information \*/

/\*==============================================================\*/

create table exam\_information (

EIid int identity,

EIname varchar(15) not null,

start\_time datetime not null,

finish\_time datetime not null,

Cid int not null,

constraint PK\_EXAM\_INFORMATION primary key (EIid)

)

go

/\*==============================================================\*/

/\* Table: grade \*/

/\*==============================================================\*/

create table grade (

Gid int identity,

Sid int not null,

PIid int not null,

score float(4) not null,

use\_time int not null,

constraint PK\_GRADE primary key (Gid)

)

go

/\*==============================================================\*/

/\* Table: paper\_information \*/

/\*==============================================================\*/

create table paper\_information (

PIid int identity,

EIid int null,

total\_score float(4) not null,

total\_time int not null,

constraint PK\_PAPER\_INFORMATION primary key (PIid)

)

go

/\*==============================================================\*/

/\* Table: paper\_question \*/

/\*==============================================================\*/

create table paper\_question (

PIid int null,

QBid int null,

PQ\_score float(4) null

)

go

/\*==============================================================\*/

/\* Table: paper\_solution \*/

/\*==============================================================\*/

create table paper\_solution (

Sid int not null,

PIid int not null,

solution varchar(255) not null,

PSscore float(4) not null,

QBid int not null

)

go

/\*==============================================================\*/

/\* Table: question\_bank \*/

/\*==============================================================\*/

create table question\_bank (

QBid int identity,

question varchar(255) not null,

answer varchar(255) not null,

Cid int not null,

is\_single int not null,

degree int not null,

A varchar(255) null,

B varchar(255) null,

C varchar(255) null,

D varchar(255) null,

E varchar(255) null,

F varchar(255) null,

G varchar(255) null,

constraint PK\_QUESTION\_BANK primary key (QBid)

)

go

/\*==============================================================\*/

/\* Table: student \*/

/\*==============================================================\*/

create table student (

Sid int not null,

Sname varchar(15) not null,

Spwd varchar(16) not null,

subject varchar(15) not null,

Smobile varchar(11) not null,

constraint PK\_STUDENT primary key (Sid)

)

go

/\*==============================================================\*/

/\* Table: student\_course \*/

/\*==============================================================\*/

create table student\_course (

Sid int null,

Cid int null

)

go

/\*==============================================================\*/

/\* Table: teacher \*/

/\*==============================================================\*/

create table teacher (

Tid int not null,

Tname varchar(15) not null,

Tpwd varchar(16) not null,

Tmobile varchar(11) not null,

constraint PK\_TEACHER primary key (Tid)

)

go

alter table exam\_information

add constraint FK\_EXAM\_INF\_REFERENCE\_COURSE foreign key (Cid)

references course (Cid)

go

alter table grade

add constraint FK\_GRADE\_REFERENCE\_PAPER\_IN foreign key (PIid)

references paper\_information (PIid)

go

alter table grade

add constraint FK\_GRADE\_REFERENCE\_STUDENT foreign key (Sid)

references student (Sid)

go

alter table paper\_information

add constraint FK\_PAPER\_IN\_REFERENCE\_EXAM\_INF foreign key (EIid)

references exam\_information (EIid)

go

alter table paper\_question

add constraint FK\_PAPER\_QU\_REFERENCE\_PAPER\_IN foreign key (PIid)

references paper\_information (PIid)

go

alter table paper\_question

add constraint FK\_PAPER\_QU\_REFERENCE\_QUESTION foreign key (QBid)

references question\_bank (QBid)

go

alter table paper\_solution

add constraint FK\_PAPER\_SO\_REFERENCE\_STUDENT foreign key (Sid)

references student (Sid)

go

alter table paper\_solution

add constraint FK\_PAPER\_SO\_REFERENCE\_PAPER\_IN foreign key (PIid)

references paper\_information (PIid)

go

alter table paper\_solution

add constraint FK\_PAPER\_SO\_REFERENCE\_QUESTION foreign key (QBid)

references question\_bank (QBid)

go

alter table question\_bank

add constraint FK\_QUESTION\_REFERENCE\_COURSE foreign key (Cid)

references course (Cid)

go

alter table student\_course

add constraint FK\_STUDENT\_\_REFERENCE\_STUDENT foreign key (Sid)

references student (Sid)

go

alter table student\_course

add constraint FK\_STUDENT\_\_REFERENCE\_COURSE foreign key (Cid)

references course (Cid)

go

## 7.2视图的创建

//学生选课情况视图

create view view\_stunum\_cname(cname,stu\_num)

as select course.cname,count(\*)

from course,student\_course

where course.Cid=student\_course.Cid

group by course.cname

//试卷详细情况视图

create view view\_paperinfo(EIname,cname,total\_score,total\_time)

as select EIname,cname,total\_score,total\_time

from exam\_information,paper\_information,course

where exam\_information.EIid=paper\_information.EIid and exam\_information.Cid=course.Cid

## 7.3存储过程或触发器的创建

//创建存储过程根据学生id和成绩id查找成绩

create proc proc\_get\_stu\_grade(@sid int,@gid int)

as select sname,score

from student,grade

where student.Sid = @sid and grade.Gid=@gid

//创建存储过程根据考试id查询所有试卷

create proc proc\_get\_paper(@eid int)

as select \*

from paper\_information

where paper\_information.EIid=@eid

//创建触发器删除考试，删除该考试的所有试卷

create trigger tri\_exam

on exam\_information

after delete

as

begin

delete paper\_information where EIid=(select EIid from deleted)

en

//创建触发器删除试卷，删除改试卷所有记录

create trigger tri\_paper

on paper\_information

after delete

as

begin

delete paper\_question where PIid=(select PIid from deleted)

delete paper\_solution where PIid=(select PIid from deleted)

delete grade where PIid=(select PIid from deleted)

end