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--第章准备学习用到的表和数据

--将以下语句拷贝到SQL manager，分部执行

## --创建数据库

```
create database schoolDB
go
use schoolDB
go
```

## --创建学生表

```
create TABLE TStudent (
    StudentID varchar(10) NOT NULL,
    Sname varchar(10) DEFAULT NULL,
    sex char(2) DEFAULT NULL,
    cardID varchar(20) DEFAULT NULL,
    Birthday datetime DEFAULT NULL,
    Email varchar(40) DEFAULT NULL,
    Class varchar(20) DEFAULT NULL,
    enterTime datetime DEFAULT NULL
)
go
```

## --创建课程表

```
create table TSubject
```

```
(
subJectID nvarchar(4),
subJectName nvarchar(30),
BookName nvarchar(30),
Publisher nvarchar(20)
)
go
```

## --创建分数表

```
create table TScore
(
StudentID nvarchar(10),
subJectID nvarchar(4),
mark decimal
)
go
```

## --插入课程信息

```
insert into TSubject values ('0001','网络管理','奠基计算机网络','清华大学出版社');
insert into TSubject values ('0002','软件测试','功能测试','人邮出版社');
insert into TSubject values ('0003','软件开发','企业级开发','人邮出版社') go
```

## --创建函数该函数能够产生学生姓名

```
create function create_name(@s float)
RETURNS varchar(10)
begin
DECLARE @LN VARCHAR(300);
DECLARE @MN VARCHAR(200);
DECLARE @FN VARCHAR(200);
DECLARE @LN_N INT;
DECLARE @MN_N INT;
DECLARE @FN_N INT;
SET @LN='李王张刘陈杨黄赵周吴徐孙朱马胡郭林何高梁郑罗宋谢唐韩曹许邓萧冯曾程蔡彭潘袁于董余苏叶吕魏蒋田杜丁沈姜范江傅钟卢汪戴崔任陆廖姚方金邱夏谭韦贾邹石熊孟秦阎薛侯雷白龙段郝孔邵史毛常万顾赖武康贺严尹钱施牛洪龚';
SET @MN='伟刚勇春菊毅俊峰强军平保东文辉力明永健世广志瑗琰韵融园艺咏卿聪澜纯毓悦昭
```

冰爽琬茗羽希宁欣飘育滢馥新利筠柔竹霭凝晓欢霄枫芸菲寒伊亚宜可姬舒义兴良海山仁波宁贵福生龙元全国胜学祥亮政谦亨奇固之岚苑富顺信子杰涛昌成康星光天达安岩中茂进林有坚和彪博诚先敬震振壮会思群豪清飞彬娜静淑惠珠翠雅芝妍茜秋珊莎锦黛青倩婷姣婉娴瑾颖露瑶怡婵雁蓓纨仪荷丹蓉眉君琴蕊薇菁梦素伟刚勇毅俊峰强军平保东文辉力明永健世广志义兴良海山仁波宁贵福生龙元全国胜学祥才发武新利清飞彬富顺信子杰涛昌成康星光天达安岩中茂进林有坚和彪博诚先敬震振壮会思群豪心邦承乐绍功松善厚庆磊民友裕河哲江超浩亮政谦亨奇固之轮翰朗伯宏言若鸣朋斌梁栋维启克伦翔旭鹏泽晨辰士以建家致树炎德行时泰盛雄琛钧冠策腾楠榕风航弘';

```
SET @FN='伟刚勇毅俊云莲真环雪荣爱妹霞香月莺媛艳瑞凡佳嘉琬勤珍贞莉桂娣叶璧才发武丽琳轮翰朗伯宏言若鸣朋斌梁栋维启克伦翔旭鹏泽晨辰士以建家致树炎德河哲江超浩璐娅琦晶裕华慧巧美婕馨影荔枝思心邦承乐绍功松善厚庆磊民友玉萍红娥玲芬芳燕彩兰凤洁梅秀娟英行时泰盛雄琛钧冠策腾楠榕风航弘峰强军平保东文辉力明永健世广志义兴良海山仁波宁贵福生龙元全国胜学祥才发武新利清飞彬富顺信子杰涛昌成康星光天达安岩中茂进林有坚和彪博诚先敬震振壮会思群豪心邦承乐绍功松善厚庆磊民友裕河哲江超浩亮政谦亨奇固之轮翰朗伯宏言若鸣朋斌梁栋维启克伦翔旭鹏泽晨辰士以建家致树炎德行时泰盛雄琛钧冠策腾楠榕风航弘';
```

```
SET @LN_N=len (@LN)*@s;
SET @MN_N=len (@MN)*@s;
SET @FN_N=len (@FN)*@s;

return
substring (@LN,@LN_N,1)+substring (@MN,@MN_N,1)+substring (@FN,@FN_N,1);
end
go
```

## --测试是否能产生新的姓名

```
select dbo.create_name(rand())
go
```

## --创建汉字转拼音的函数，用来产生用户的邮箱

```
create function dbo.fn_GetPinyin (@words nvarchar(2000))
returns varchar(8000)
as
begin
declare @word nchar(1)
declare @pinyin varchar(8000)
declare @i int
declare @words_len int
declare @unicode int
set @i = 1
set @words = ltrim(rtrim(@words))
```

```

set @words_len = len(@words)
while (@i <= @words_len) --循环取字符
begin
set @word = substring(@words, @i, 1)
set @unicode = unicode(@word)
set @pinyin = ISNULL(@pinyin +SPACE(0), '') +
(case when unicode(@word) between 19968 and 19968+20901 then
(select top 1 py from (
select 'a' as py,N'厖' as word
union all select 'ai',N'霰'
union all select 'an',N'黯'
union all select 'ang',N'醯'
union all select 'ao',N'驚'
union all select 'ba',N'櫛'
union all select 'bai',N'𪔐' --鞞𪔐
union all select 'ban',N'瓣'
union all select 'bang',N'鎗'
union all select 'bao',N'鏹'
union all select 'bei',N'壁'
union all select 'ben',N'輻'
union all select 'beng',N'鏹'
union all select 'bi',N'鼈'
union all select 'bian',N'變'
union all select 'biao',N'鰓'
union all select 'bie',N'犖'
union all select 'bin',N'鬢'
union all select 'bing',N'靄'
union all select 'bo',N'蔔'
union all select 'bu',N'簿'
union all select 'ca',N'囀'
union all select 'cai',N'盜' --縑盜
union all select 'can',N'燦'
union all select 'cang',N'賄'
union all select 'cao',N'鏊'
union all select 'ce',N'箝'
union all select 'cen',N'岑'
union all select 'ceng',N'耄' --礪礪𪔐猓耄
union all select 'cha',N'詫'
union all select 'chai',N'囁'
union all select 'chan',N'顫'
union all select 'chang',N'輶'
union all select 'chao',N'舛'
union all select 'che',N'燬'
union all select 'chen',N'識'

```

```
union all select 'cheng',N'秤'
union all select 'chi',N'鶩'
union all select 'chong',N'銃'
union all select 'chou',N'殍'
union all select 'chu',N'矗'
union all select 'chuai',N'踹'
union all select 'chuan',N'鷄'
union all select 'chuang',N'愴'
union all select 'chui',N'頤'
union all select 'chun',N'蠢'
union all select 'chuo',N'綏'
union all select 'ci',N'髡' --賜髡
union all select 'cong',N'聰'
union all select 'cou',N'輶'
union all select 'cu',N'顚'
union all select 'cuan',N'爨'
union all select 'cui',N'臍'
union all select 'cun',N'村'
union all select 'cuo',N'錯'
union all select 'da',N'槥'
union all select 'dai',N'黠'
union all select 'dan',N'餐'
union all select 'dang',N'闍'
union all select 'dao',N'蠱'
union all select 'de',N'的'
union all select 'den',N'鈍'
union all select 'deng',N'鐙'
union all select 'di',N'蟬'
union all select 'dia',N'嗉'
union all select 'dian',N'驂'
union all select 'diao',N'鑼'
union all select 'die',N'黠' --睚黠
union all select 'ding',N'顛'
union all select 'diu',N'鈎'
union all select 'dong',N'霽'
union all select 'dou',N'鬪'
union all select 'du',N'蠹'
union all select 'duan',N'舌' --齟舌
union all select 'dui',N'對'
union all select 'dun',N'踣'
union all select 'duo',N'鷄'
union all select 'e',N'鰓'
union all select 'en',N'摠'
union all select 'eng',N'鞞'
```

```
union all select 'er',N'桮'
union all select 'fa',N'髮'
union all select 'fan',N'簷'
union all select 'fang',N'放'
union all select 'fei',N'贐'
union all select 'fen',N'鱗'
union all select 'feng',N'勛'
union all select 'fo',N'拂'
union all select 'fou',N'馮'
union all select 'fu',N'狻' --鯁狻
union all select 'ga',N'尅'
union all select 'gai',N'璫'
union all select 'gan',N'瀨'
union all select 'gang',N'憇'
union all select 'gao',N'鎬'
union all select 'ge',N'獺'
union all select 'gei',N'給'
union all select 'gen',N'拒'
union all select 'geng',N'垸' --互垸嘑噏嘑
union all select 'gong',N'壘' --煩賴尅尅
union all select 'gou',N'購'
union all select 'gu',N'顧'
union all select 'gua',N'註'
union all select 'guai',N'恠'
union all select 'guan',N'罐'
union all select 'guang',N'橫'
union all select 'gui',N'鯀'
union all select 'gun',N'謁'
union all select 'guo',N'腓'
union all select 'ha',N'哈'
union all select 'hai',N'饕'
union all select 'han',N'鶻'
union all select 'hang',N'沆'
union all select 'hao',N'尅'
union all select 'he',N'靄'
union all select 'hei',N'嬾'
union all select 'hen',N'恨'
union all select 'heng',N'犁' --犁藎
union all select 'hong',N'閔'
union all select 'hou',N'鬻'
union all select 'hu',N'鵠'
union all select 'hua',N'薜'
union all select 'huai',N'瓊'
union all select 'huan',N'鰓'
```

```
union all select 'huang',N'銙'
union all select 'hui',N'顙'
union all select 'hun',N'諱'
union all select 'huo',N'杏'
union all select 'ji',N'驥'
union all select 'jia',N'噐'
union all select 'jian',N'鑣'
union all select 'jiang',N'響'
union all select 'jiao',N'醕'
union all select 'jie',N'解'
union all select 'jin',N'黻'
union all select 'jing',N'競'
union all select 'jiong',N'穎'
union all select 'jiu',N'舊'
union all select 'ju',N'燿'
union all select 'juan',N'絹'
union all select 'jue',N'鑊'
union all select 'jun',N'據'
union all select 'ka',N'鈇'
union all select 'kai',N'袞' --鍤袞
union all select 'kan',N'闕'
union all select 'kang',N'閔'
union all select 'kao',N'鮒'
union all select 'ke',N'騾'
union all select 'ken',N'綃'
union all select 'keng',N'鏗' --曷曠聒尔悵
union all select 'kong',N'鹿'
union all select 'kou',N'馥'
union all select 'ku',N'譽'
union all select 'kua',N'誇'
union all select 'kuai',N'鱠'
union all select 'kuan',N'窾'
union all select 'kuang',N'鑛'
union all select 'kui',N'鑷'
union all select 'kun',N'睏'
union all select 'kuo',N'鵠'
union all select 'la',N'鞞'
union all select 'lai',N'籟'
union all select 'lan',N'欄'
union all select 'lang',N'吟'
union all select 'lao',N'勞'
union all select 'le',N'饒'
union all select 'lei',N'剌' --嘍剌
union all select 'leng',N'陵'
```

```
union all select 'li',N'璿'
union all select 'lia',N'倆'
union all select 'lian',N'戀'
union all select 'liang',N'諒'
union all select 'liao',N'瞭'
union all select 'lie',N'蠟'
union all select 'lin',N'轡' --轡鈴
union all select 'ling',N'炆'
union all select 'liu',N'咯' --礮礮囉咯
union all select 'long',N'隴'
union all select 'lou',N'鏤'
union all select 'lu',N'魯'
union all select 'lv',N'鑢'
union all select 'luan',N'亂'
union all select 'lue',N'撿'
union all select 'lun',N'論'
union all select 'luo',N'鑠'
union all select 'ma',N'嘛'
union all select 'mai',N'霰'
union all select 'man',N'蔓'
union all select 'mang',N'蟒'
union all select 'mao',N'毳'
union all select 'me',N'瘰' --瘰癧
union all select 'mei',N'欸'
union all select 'men',N'們'
union all select 'meng',N'蒙' --霧跽
union all select 'mi',N'冪'
union all select 'mian',N'麵'
union all select 'miao',N'廟'
union all select 'mie',N'鰓' --鰓鳃
union all select 'min',N'簋'
union all select 'ming',N'詔'
union all select 'miu',N'謬'
union all select 'mo',N'糖' --糖𪔐
union all select 'mou',N'𦍋' --𦍋𦍋
union all select 'mu',N'旒'
union all select 'na',N'鮑'
union all select 'nai',N'銖'
union all select 'nan',N'孀'
union all select 'nang',N'釐'
union all select 'nao',N'臍'
union all select 'ne',N'呢'
union all select 'nei',N'炆' --嫩炆
union all select 'nen',N'嫩'
```



```
union all select 'neng',N'能' -- 甞 甞 甞 甞
union all select 'ni',N'嫫'
union all select 'nian',N'艸'
union all select 'niang',N'釀'
union all select 'niao',N'豚'
union all select 'nie',N'讎'
union all select 'nin',N'拊'
union all select 'ning',N'潯'
union all select 'niu',N'靺'
union all select 'nong',N'龔'
union all select 'nou',N'譎'
union all select 'nu',N'擣'
union all select 'nv',N'衄'
union all select 'nue',N'瘡'
union all select 'nuan',N'爇' -- 磳 磳 爇 爇
union all select 'nuo',N'柺'
union all select 'o',N'鞞' -- 搯 能 羆 鞞
union all select 'ou',N'漚'
union all select 'pa',N'柏'
union all select 'pai',N'磚' -- 鏵 磚
union all select 'pan',N'鑠'
union all select 'pang',N'胖'
union all select 'pao',N'礲'
union all select 'pei',N'轡'
union all select 'pen',N'奔'
union all select 'peng',N'覬' -- 泚 覬 覬 覬
union all select 'pi',N'鵬'
union all select 'pian',N'騙'
union all select 'piao',N'標'
union all select 'pie',N'嬖'
union all select 'pin',N'聘'
union all select 'ping',N'蘋'
union all select 'po',N'魄'
union all select 'pou',N'劈' -- 岔 劈
union all select 'pu',N'曝'
union all select 'qi',N'螫'
union all select 'qia',N'骼'
union all select 'qian',N'絳'
union all select 'qiang',N'砒' -- 羆 羆 羆
union all select 'qiao',N'蹴'
union all select 'qie',N'箴'
union all select 'qin',N'蕝'
union all select 'qing',N'櫟'
union all select 'qiong',N'璫'
```

union all select 'qiu',N'糗'  
union all select 'qu',N'覩'  
union all select 'quan',N'勸'  
union all select 'que',N'確'  
union all select 'qun',N'噉'  
union all select 'ran',N'燃'  
union all select 'rang',N'讓'  
union all select 'rao',N'繞'  
union all select 're',N'熱'  
union all select 'ren',N'餛'  
union all select 'reng',N'陝'  
union all select 'ri',N'駟'  
union all select 'rong',N'榕'  
union all select 'rou',N'嶠'  
union all select 'ru',N'孺'  
union all select 'ruan',N'礪'  
union all select 'rui',N'贅'  
union all select 'run',N'櫛' --櫛掇  
union all select 'ruo',N'鵠'  
union all select 'sa',N'柁' --櫟柁  
union all select 'sai',N'藿' --藿藿  
union all select 'san',N'閭'  
union all select 'sang',N'喪'  
union all select 'sao',N'譟'  
union all select 'se',N'颺' --衺聳  
union all select 'sen',N'簪'  
union all select 'seng',N'綰' --閭綰  
union all select 'sha',N'霎'  
union all select 'shai',N'曬'  
union all select 'shan',N'鱔'  
union all select 'shang',N'綯'  
union all select 'shao',N'湑'  
union all select 'she',N'攝'  
union all select 'shen',N'疹'  
union all select 'sheng',N'賸'  
union all select 'shi',N'砒' --鯨齒尅砒  
union all select 'shou',N'鍬'  
union all select 'shu',N'廬'  
union all select 'shua',N'諉'  
union all select 'shuai',N'擥'  
union all select 'shuan',N'膾'  
union all select 'shuang',N'濡'  
union all select 'shui',N'睡'  
union all select 'shun',N'髻'

```
union all select 'shuo',N'鑠'  
union all select 'si',N'𪛗' --𪛗𪛗  
union all select 'song',N'鋤'  
union all select 'sou',N'瘃'  
union all select 'su',N'鷗'  
union all select 'suan',N'算'  
union all select 'sui',N'鎚'  
union all select 'sun',N'濇'  
union all select 'suo',N'蟀'  
union all select 'ta',N'𣎵' --𣎵  
union all select 'tai',N'燐'  
union all select 'tan',N'𣎵'  
union all select 'tang',N'燙'  
union all select 'tao',N'𣎵' --討𣎵  
union all select 'te',N'𪛗'  
union all select 'teng',N'𪛗' --𪛗  
union all select 'ti',N'𪛗'  
union all select 'tian',N'𪛗'  
union all select 'tiao',N'𪛗'  
union all select 'tie',N'𪛗'  
union all select 'ting',N'𪛗' --𪛗  
union all select 'tong',N'𪛗'  
union all select 'tou',N'透'  
union all select 'tu',N'鷗'  
union all select 'tuan',N'𪛗'  
union all select 'tui',N'𪛗'  
union all select 'tun',N'𪛗'  
union all select 'tuo',N'𪛗'  
union all select 'wa',N'𪛗'  
union all select 'wai',N'𪛗'  
union all select 'wan',N'𪛗'  
union all select 'wang',N'𪛗'  
union all select 'wei',N'𪛗'  
union all select 'wen',N'𪛗'  
union all select 'weng',N'𪛗'  
union all select 'wo',N'𪛗'  
union all select 'wu',N'𪛗'  
union all select 'xi',N'𪛗'  
union all select 'xia',N'𪛗'  
union all select 'xian',N'𪛗'  
union all select 'xiang',N'𪛗'  
union all select 'xiao',N'𪛗'  
union all select 'xie',N'𪛗'  
union all select 'xin',N'𪛗'
```

union all select 'xing',N'馨'  
union all select 'xiong',N'冢'  
union all select 'xiu',N'鯁'  
union all select 'xu',N'苻'  
union all select 'xuan',N'贊'  
union all select 'xue',N'渦'  
union all select 'xun',N'鏹'  
union all select 'ya',N'鬱'  
union all select 'yan',N'濫'  
union all select 'yang',N'樣'  
union all select 'yao',N'鑰'  
union all select 'ye',N'兕' --鷄膍兕  
union all select 'yi',N'齏'  
union all select 'yin',N'穩'  
union all select 'ying',N'鷹'  
union all select 'yo',N'啣'  
union all select 'yong',N'營'  
union all select 'you',N'鼬'  
union all select 'yu',N'燭'  
union all select 'yuan',N'願'  
union all select 'yue',N'鵠'  
union all select 'yun',N'韻'  
union all select 'za',N'蠹'  
union all select 'zai',N'絳'  
union all select 'zan',N'饋'  
union all select 'zang',N'臟'  
union all select 'zao',N'竈'  
union all select 'ze',N'稜'  
union all select 'zei',N'鰓'  
union all select 'zen',N'嚼'  
union all select 'zeng',N'贈'  
union all select 'zha',N'醉'  
union all select 'zhai',N'瘵'  
union all select 'zhan',N'驂'  
union all select 'zhang',N'障'  
union all select 'zhao',N'繹'  
union all select 'zhe',N'鷓'  
union all select 'zhen',N'黠'  
union all select 'zheng',N'證'  
union all select 'zhi',N'黠'  
union all select 'zhong',N'諄'  
union all select 'zhou',N'驟'  
union all select 'zhu',N'鑄'  
union all select 'zhua',N'爪'

```
union all select 'zhuai',N'跬'
union all select 'zhuan',N'簋'
union all select 'zhuang',N'戇'
union all select 'zhui',N'鍜'
union all select 'zhun',N'稕'
union all select 'zhuo',N'籀'
union all select 'zi',N'漬' --漬嘔
union all select 'zong',N'縱'
union all select 'zou',N'嫫'
union all select 'zu',N'誼'
union all select 'zuan',N'攢'
union all select 'zui',N'櫺'
union all select 'zun',N'鎔'
union all select 'zuo',N'叅') t
where word >= @word collate Chinese_PRC_CS_AS_KS_WS
order by word collate Chinese_PRC_CS_AS_KS_WS ASC) else @word end)
set @i = @i + 1
end
return @pinyin
END
go
```

## --执行以下命令查看函数效果

```
select dbo.fn_GetPinyin('韩立刚')
go
```

## --创建添加学生的存储过程

```
create procedure addStudent @num int
as
begin
declare @i int;
set @i=1;
delete TStudent;
while @num>=@i
begin
declare @sname varchar(40)
declare @sub int
set @sname=dbo.create_name(rand())
set @sub=rand()*4
```

```
insert TStudent
(StudentID,Sname,sex,cardID,Birthday,Email,Class,enterTime) values (
right(replicate('0',10)+ltrim(@i),10),
@sname,
case when(rand()>0.5) then '男' else '女' end,
convert(nvarchar(16),convert(bigint,rand()*10000000000000000)),
'198'+convert(char(1),convert(int,rand()*9)+1)+'-'+convert(char(2),convert(int,rand()*11+1))+'-'+convert(char(2),convert(int,rand()*27+1))
,
dbo.fn_GetPinyin(@sname)+'@91xueit.com',
case when(@sub<1) then '网络' when (@sub>=1 and @sub<2) then '测试' else
'开发' end,
getdate()
)
set @i=@i+1;
end
end
```

## --添加个学生

```
exec dbo.addStudent 1900
```

## --查看添加的学生

```
select * from dbo.TStudent
go
```

## --创建插入学生成绩的存储过程学生成绩在 50-100 分之间

```
create procedure fillSore
as
DECLARE @St_Num INT;
DECLARE @Sb_Num INT;
DECLARE @i1 INT;
```

```
DECLARE @i2 INT;
set @i1=1;
set @i2=1;
delete TScore;
select @St_Num=count(*) from TStudent;
select @Sb_Num=count(*) from TSubject;
while @St_Num>=@i1
begin
set @i2=1;
while @Sb_Num>=@i2
begin
insert TScore values

(right(replicate('0',10)+ltrim(@i1),10),right(replicate('0',4)+ltrim(
@i2),4),50+rand()*50)
set @i2=@i2+1
end
set @i1=@i1+1
end
```

## --插入成绩

--调用存储过程插入学生成绩

```
exec fillScore
select * from dbo.TScore
```

## --查看三张表连接的结果

```
select a.*,b.*,c.* from TStudent a join TScore b on
a.StudentID=b.StudentID join TSubject c on b.subJectID=c.subJectID
```