

# 《数据库原理与设计》实验报告

年级、专业、班级		2024 级软件工程 01		姓名	
实验题目	实验 3 表的基本操作				
实验时间	2024/9/20	实验地点	DS1501		
实验成绩		实验性质	<input checked="" type="checkbox"/> 验证性 <input type="checkbox"/> 设计性 <input type="checkbox"/> 综合性		
<p>教师评价：</p> <p><input type="checkbox"/>算法/实验过程正确；      <input type="checkbox"/>源程序/实验内容提交      <input type="checkbox"/>程序结构/实验步骤合理；</p> <p><input type="checkbox"/>实验结果正确；      <input type="checkbox"/>语法、语义正确；      <input type="checkbox"/>报告规范；</p> <p>其他：</p> <p>评价教师签名：</p>					
<p>一、实验目的</p> <p>[1] 掌握表的创建方法；</p> <p>[2] 掌握表结构的修改方法；</p> <p>[3] 掌握复制表结构的方法；</p> <p>[4] 掌握删除表的方法。</p>					
<p>二、实验项目内容</p> <p>针对数据库 Library（表结构和内容如附录）进行下面的实验：</p> <ol style="list-style-type: none"><li>使用图形界面工具在 library 数据库下创建读者关系 reader。</li><li>使用 SQL 在 library 数据库下创建图书关系 book 和借书关系 borrow，并将 SQL 语句保存为脚本文件。</li><li>使用 SQL 语句复制 reader 表结构创建数据表 readcopy，复制 book 表结构创建数据表 bookcopy。</li><li>使用图形界面工具修改 bookcopy 表的结构，增加 publisher 列，数据类型：CHAR，长度：50，允许空否：NULL，修改 bauthor 列的数据类型为 VARCHAR，长度为 80。</li><li>使用 SQL 向 readcopy 表增加电子信箱 email 列。列名:email,数据类型:CHAR,长度：40，允许空否：NOT NULL。</li><li>使用 SQL 修改 readcopy 表中电子信箱 email 列，修改后数据类型:CHAR,长度：20，允许空否：NULL。</li><li>使用 SQL 修改 readcopy 表中 email 列名为 email_1，数据类型为 CHAR（20）。</li><li>使用 SQL 设置 readcopy 表中 rage 列的默认值为 0。</li></ol>					

报告创建时间：

9. 使用 SQL 删除 readcopy 表中电子信箱 email\_1 列。
10. 使用 SQL 修改 readcopy 表的名称为 readercopy。
11. 使用 SQL 删除数据表 readercopy。
12. 用图形界面工具删除 bookcopy 表。

### 三、实验过程或算法（源程序）

#### 2.创建数据表

```
create table book(  
idbook int(4) not null,  
primary key (idbook));  
create table borrow(  
idname int(4) not null,  
idbook int(4),  
primary key (idbook));
```

#### 3.复制表结构

```
create table readcopy like reader;  
create table bookcopy like book;
```

#### 5.添加列

```
alter table readcopy  
add column email char(40) not null;
```

#### 6.修改列

```
alter table readcopy  
change column email email char(40) null;
```

#### 7.修改列名

```
alter table readcopy  
change column email email_1 char(20) null;
```

#### 8.创建列并设置默认值

```
alter table readcopy  
add column rage char(20) null;  
alter table readcopy  
modify rage float default 0;
```

#### 9.删除列

```
alter table readcopy  
drop column email_1;
```

## 10.修改表的名称

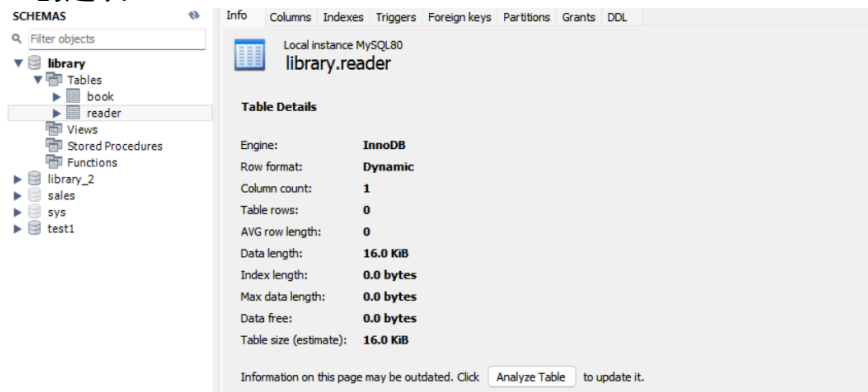
alter table readcopy rename to readercopy;

## 11.删除表

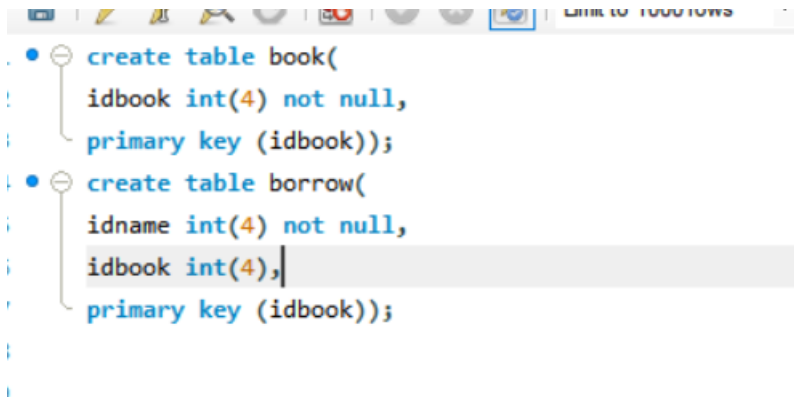
drop table readercopy;

# 四、实验结果及分析和（或）源程序调试过程

## 1.创建表



## 2.创建表（sql）



## 3.复制表结构

Query 1

SQL File 5\*

Limit to 1000 rows

SQLAdditions

Automatic context help disabled. Use the tool manually get help from current caret position toggle automatic help

```

1 • create table readcopy like reader;
2 • create table bookcopy like book;
3

```

Output

Action Output

#	Time	Action	Message	Duration / Fetch
5	20:11:58	Apply changes to reader		
6	20:12:44	Apply changes to reader	Changes applied	
7	20:15:16	create table book	Error Code: 4028. A table must have at least one visible column.	0.000 sec
8	20:17:06	create table book (idbook int(4) not null, primary key (idbook))	0 row(s) affected, 1 warning(s): 1681 Integer display width is deprecated a...	0.016 sec
9	20:17:50	create table book (idbook int(3) not null, primary key (idbook))	Error Code: 1050. Table 'book' already exists	0.016 sec
10	20:20:55	create table borrow (idname int(4) not null, idbook int(4), primary key (idbook))	0 row(s) affected, 2 warning(s): 1681 Integer display width is deprecated a...	0.031 sec
11	20:24:34	create table readcopy like reader	0 row(s) affected	0.016 sec
12	20:24:34	create table bookcopy like book	0 row(s) affected	0.015 sec

#### 4.修改列和创建列

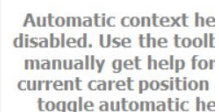
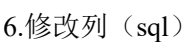
Table Name:

bookcopy

Schema: library

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
idbook	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
publisher	CHAR(50)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
bauthor	VARCHAR(80)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL

#### 5.添加列 (sql)



## 7.修改列名 (sql)

The screenshot shows a SQL IDE with a query editor and an output window. The query editor contains the following SQL code:

```
1 • alter table readcopy
2   change column email email_1 char(20) null;
3
```

A tooltip is visible on the right side of the query editor, stating: "Automatic context help disabled. Use the tool manually get help for current caret position toggle automatic help".

The output window displays the results of the SQL execution, including a table with columns: #, Time, Action, Message, and Duration / Fetch. The table contains 8 rows of data, showing the execution of various SQL statements and their results.

#	Time	Action	Message	Duration / Fetch
11	20:24:34	create table readcopy like reader	0 row(s) affected	0.016 sec
12	20:24:34	create table bookcopy like book	0 row(s) affected	0.015 sec
13	20:30:29	Apply changes to bookcopy	Changes applied	
14	20:34:07	alter table readcopy add column email char(40) null	0 row(s) affected Records: 0 Duplicates: 0 Wamin...	0.015 sec
15	20:36:14	alter table readcopy add column email char(40) not ...	Error Code: 1060. Duplicate column name 'email'	0.000 sec
16	20:36:48	Apply changes to readcopy	Changes applied	
17	20:47:07	alter table readcopy change column email email ch...	0 row(s) affected Records: 0 Duplicates: 0 Wamin...	0.031 sec
18	20:49:47	alter table readcopy change column email email_1 ...	0 row(s) affected Records: 0 Duplicates: 0 Wamin...	0.063 sec

## 8.设置默认 (sql)

Automatic context help disabled. Use the toolbar manually get help for the current caret position or toggle automatic help

```

1 • alter table readcopy
2   add column rage char(20) null;
3 • alter table readcopy
4   modify rage float default 0;
5

```

Output

Context Help Snippets

Action Output

#	Time	Action	Message	Duration / Fetch
✓	13 20:30:29	Apply changes to bookcopy	Changes applied	
✓	14 20:34:07	alter table readcopy add column email char(40) null	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.015 sec
✗	15 20:36:14	alter table readcopy add column email char(40) not null	Error Code: 1060. Duplicate column name 'email'	0.000 sec
✓	16 20:36:48	Apply changes to readcopy	Changes applied	
✓	17 20:47:07	alter table readcopy change column email email char(40)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.031 sec
✓	18 20:49:47	alter table readcopy change column email email_1 char(40)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.063 sec
✓	19 20:54:14	alter table readcopy add column rage char(20) null	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.016 sec
✓	20 20:54:14	alter table readcopy modify rage float default 0	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.031 sec

Table Name: **readcopy** Schema: **library**

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
idname	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
email_1	CHAR(20)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
rage	FLOAT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	'0'

## 9.删除列（sql）

```

1 • alter table readcopy
2   drop column email_1;

```

Output

Action Output

#	Time	Action	Message
✓	14 20:34:07	alter table readcopy add column email char(40) null	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0
✗	15 20:36:14	alter table readcopy add column email char(40) not null	Error Code: 1060. Duplicate column name 'email'
✓	16 20:36:48	Apply changes to readcopy	Changes applied
✓	17 20:47:07	alter table readcopy change column email email char(40) null	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0
✓	18 20:49:47	alter table readcopy change column email email_1 char(20) null	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0
✓	19 20:54:14	alter table readcopy add column rage char(20) null	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0
✓	20 20:54:14	alter table readcopy modify rage float default 0	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0
✓	21 20:58:09	alter table readcopy drop column email_1	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0

## 10.修改表的名称（sql）

Limit to 1000 rows

1 • `alter table readcopy rename to readercopy;`

Output

Action Output

#	Time	Action	Message
15	20:36:14	alter table readcopy add column email char(40) not null	Error Code: 11
16	20:36:48	Apply changes to readcopy	Changes appl
17	20:47:07	alter table readcopy change column email email char(40) null	0 row(s) affec
18	20:49:47	alter table readcopy change column email email_1 char(20) null	0 row(s) affec
19	20:54:14	alter table readcopy add column rage char(20) null	0 row(s) affec
20	20:54:14	alter table readcopy modify rage float default 0	0 row(s) affec
21	20:58:09	alter table readcopy drop column email_1	0 row(s) affec
22	21:00:53	alter table readcopy rename to readercopy	0 row(s) affec

library

- Tables
  - book
  - bookcopy
  - borrow
  - reader
  - readercopy
- Views
- Stored Procedures

## 11.删除表（sql）



1 `drop table readercopy;`

Automatically disables manual current toggle

Context Help

Output

#	Time	Action	Message
✓ 17	20:47:07	alter table readcopy change column email email ch...	0 row(s) affected Records: 0 Duplicates: 0 W.
✓ 18	20:49:47	alter table readcopy change column email_email_1 ...	0 row(s) affected Records: 0 Duplicates: 0 W.
✓ 19	20:54:14	alter table readcopy add column rage char(20) null	0 row(s) affected Records: 0 Duplicates: 0 W.
✓ 20	20:54:14	alter table readcopy modify rage float default 0	0 row(s) affected Records: 0 Duplicates: 0 W.
✓ 21	20:58:09	alter table readcopy drop column email_1	0 row(s) affected Records: 0 Duplicates: 0 W.
✓ 22	21:00:53	alter table readcopy rename to readercopy	0 row(s) affected
✓ 23	21:05:33	create table readcopy like readercopy	0 row(s) affected
✓ 24	21:07:28	drop table readercopy	0 row(s) affected

## 12.删除表

book  
bookcopy  
borrow  
readcopy  
reader  
readercopy  
Views  
Stored Procedures  
Functions  
library\_2  
sales  
sys  
test1

**i Drop Table**

Please confirm permanent deletion of table `readcopy` and its data.

→ Review SQL

→ Drop Now

取消