武汉纺织大学

Java应用开发课程设计

**基于MyBatis的图书管理系统**

**学 院： 数学与计算机学院**

**班 级： 物联网11802**

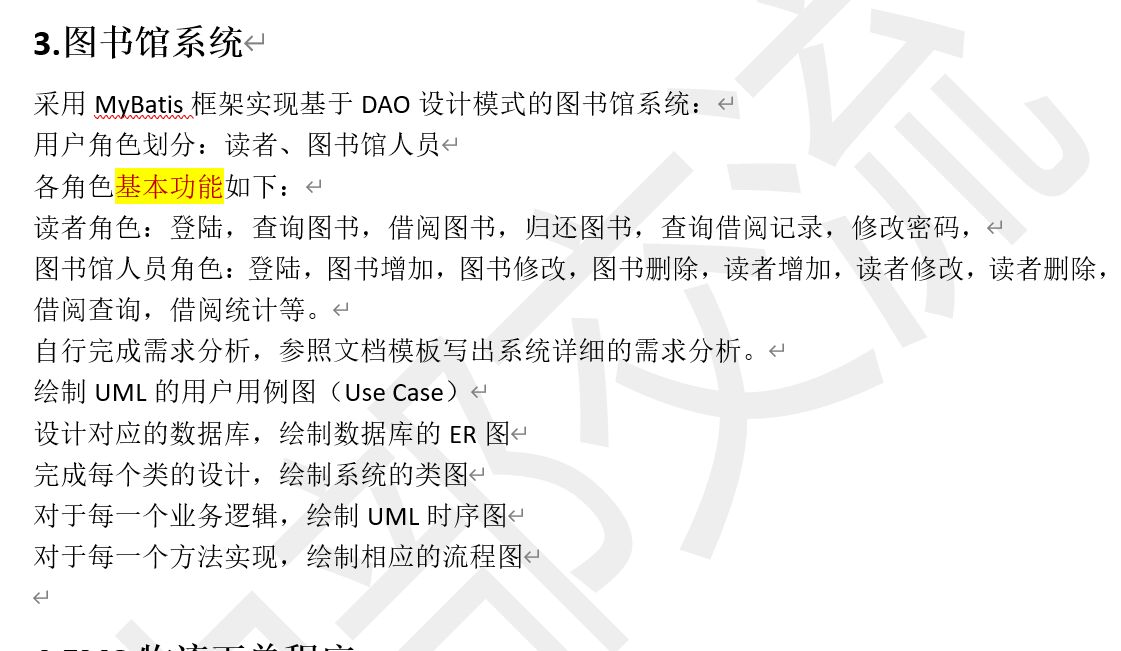
**姓 名： 沈晓晗**

**学 号： 1804241003**

**指导老师： 聂刚**

**成 绩：**

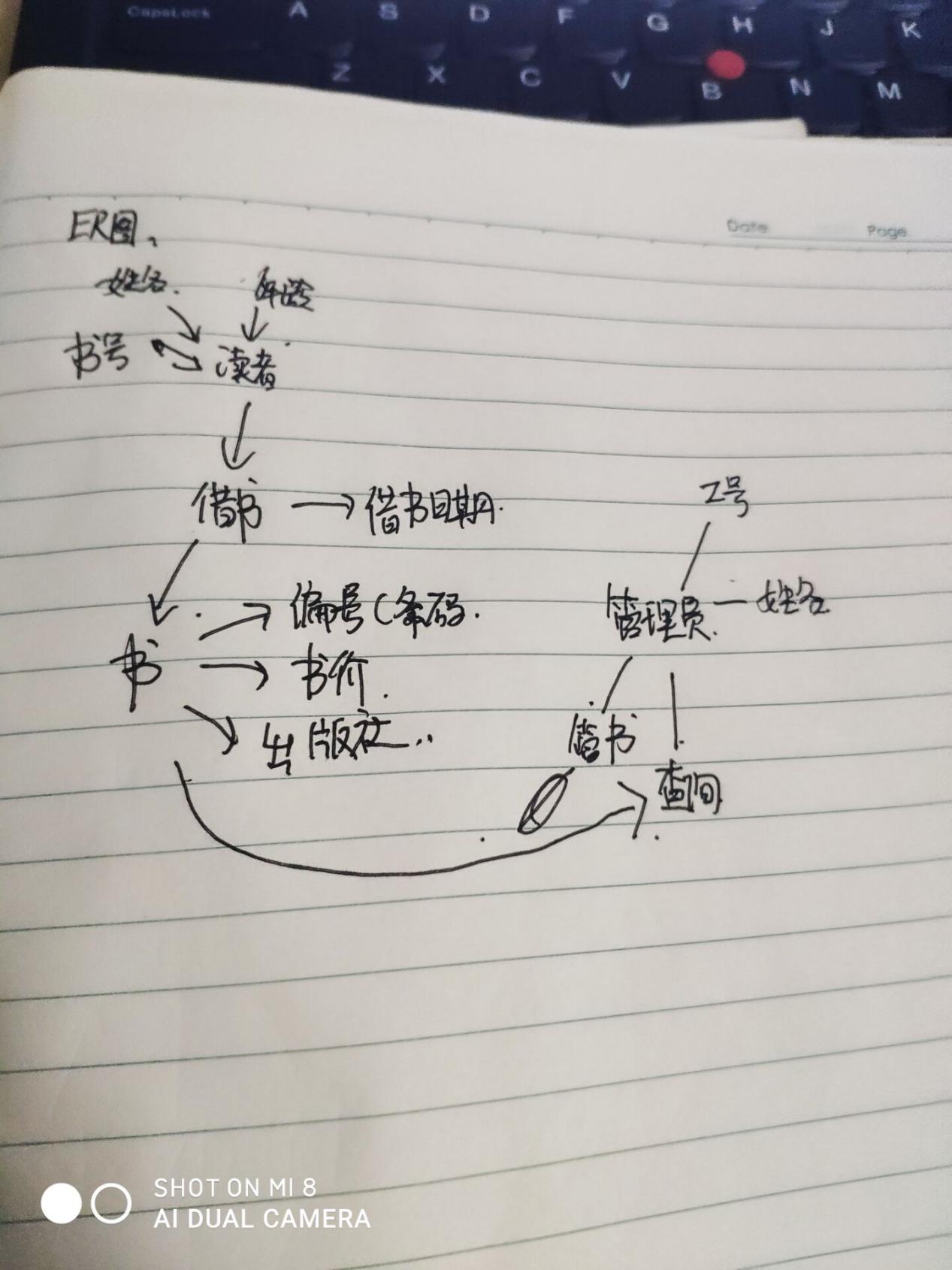
**完成日期： 2020年6月20日**



# **2 系统设计**

## 2.1ER图

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图3-1 数据库ER图

## 2.3 UML类图（Class Diagram）

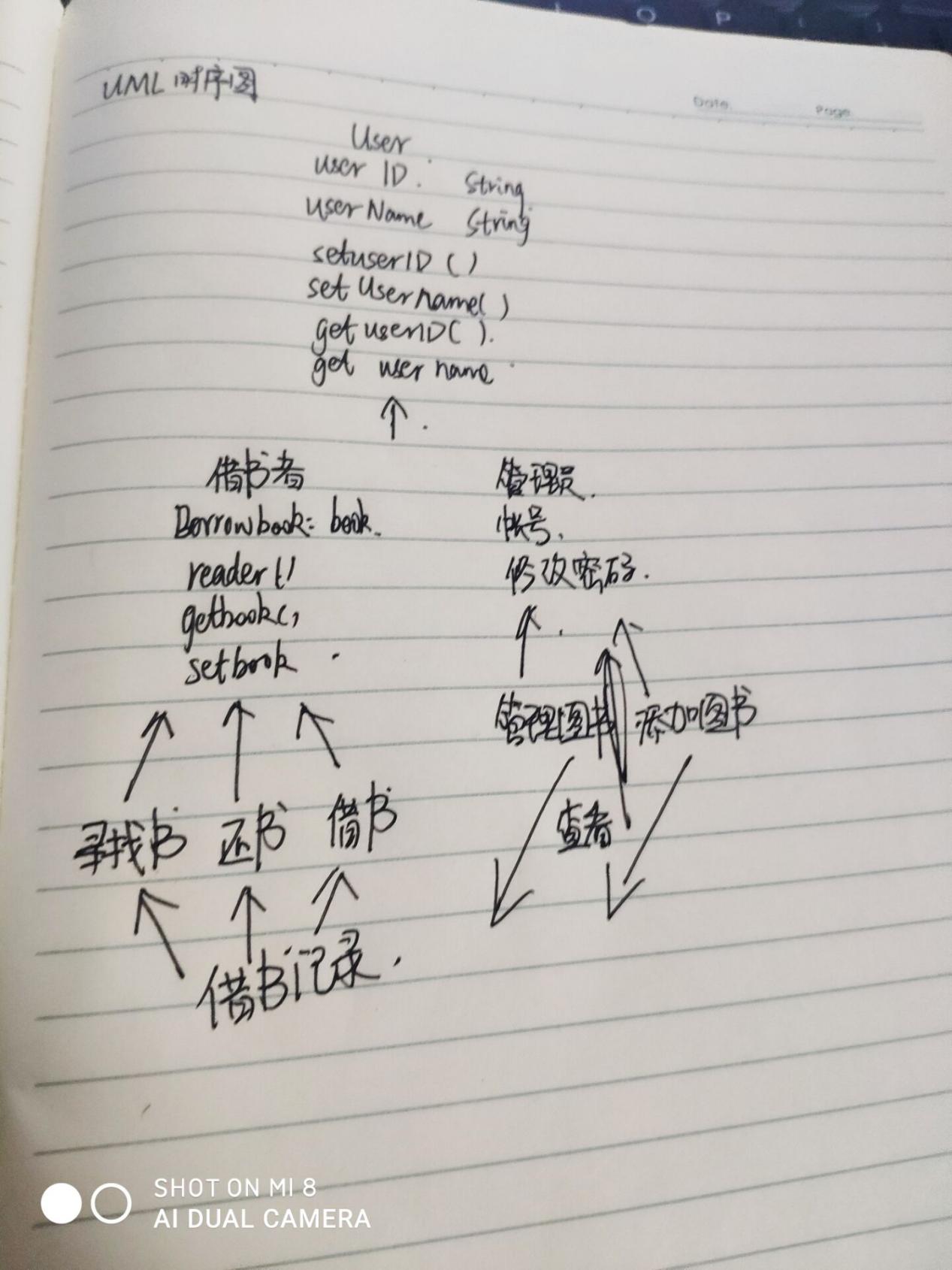
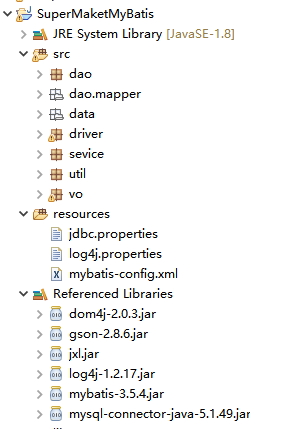


图2-5 用户功能类图

# **3 系统实现**

## 3.1 项目结构



## 3.2 配置文件

import java.sql.Connection;

import java.sql.Date;

import java.sql.DriverManager;

import java.sql.PreparedStatement;

import java.sql.ResultSet;

import java.util.Scanner;

public class Sql\_java1 {

public static void main(String args[]) throws Exception {

int choose;

choose=menu();

while(choose!=3) {

switch(choose) {

case 1:insert();break;

case 2:select();break;

case 3:System.out.println("程序退出！");return;

default:System.out.println("输入无效！请重新输入");break;

}

choose=menu();

}

}

public static void insert() throws Exception{

Class.forName("com.mysql.jdbc.Driver");

Connection con=DriverManager.getConnection("jdbc:mysql://localhost:3306/mis?useUnicode=true&characterEncoding=utf-8","root","liuxin520");

String sql1="insert into tstudent(id,name,gender,birth,score) values(?,?,?,?,?)";

PreparedStatement ps1=con.prepareStatement(sql1);

String s1="";

System.out.println("请输入图书信息，ID，name，gender，score,以逗号分隔,end结束");

while(s1.equals("end")!=true) {

Scanner scan=new Scanner(System.in);

s1=scan.nextLine();

String[] strs=s1.split(",|，");

if(strs.length==5) {

ps1.setString(1,strs[0]);

ps1.setString(2,strs[1]);

ps1.setString(3, strs[2]);

ps1.setString(4, strs[3]);

ps1.setFloat(5,Float.parseFloat( strs[4]));

}

}

int counts=ps1.executeUpdate();

System.out.println(counts);

System.out.println("插入图书信息成功！");

ps1.close();

con.close();

}

public static void select() throws Exception{

//?useUnicode=true&characterEncoding=utf-8

Class.forName("com.mysql.jdbc.Driver");

Connection con=DriverManager.getConnection("jdbc:mysql://localhost:3306/mis?useUnicode=true&characterEncoding=utf-8","root","liuxin520");

String sql2="select \* from tstudent where id=?";

PreparedStatement ps2=con.prepareStatement(sql2);

System.out.println("请输入图书号码:");

Scanner scan=new Scanner(System.in);

String s=scan.nextLine();

ps2.setString(1, s);

ResultSet rs=ps2.executeQuery();

//ps2.setString(1, s);

while(rs.next()) {

String id=rs.getString("id");

String name=rs.getString("name");

String gender=rs.getString("gender");

System.out.println(id+"\t"+name+"\t"+gender+"\t"+birth+"\t"+score);

}

ps2.close();

rs.close();

con.close();

}

public static int menu() {

int choose;

System.out.println("图书管理系统");

System.out.println("1.插入图书信息");

System.out.println("2.查询图书信息");

System.out.println("3.退出");

Scanner scan=new Scanner(System.in);

System.out.println("请输入您的选择:");

choose=scan.nextInt();

return choose;

}

}

import java.io.BufferedInputStream;

import java.io.BufferedReader;

import java.io.BufferedWriter;

import java.io.File;

import java.io.FileInputStream;

import java.io.FileOutputStream;

import java.io.FileReader;

import java.io.FileWriter;

import java.io.InputStream;

import java.io.InputStreamReader;

import java.io.OutputStream;

import java.io.OutputStreamWriter;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.PreparedStatement;

import java.sql.ResultSet;

import java.sql.SQLException;

import java.text.SimpleDateFormat;

import java.util.ArrayList;

import java.util.Date;

import java.util.Properties;

import java.util.Scanner;

import java.util.regex.Matcher;

import java.util.regex.Pattern;

import jxl.Cell;

import jxl.Sheet;

import jxl.Workbook;

import jxl.write.Label;

import jxl.write.WritableSheet;

import jxl.write.WritableWorkbook;

public class Sql\_java2 {

public static void main(String args[]) throws Exception {

/\*

Properties pro1=new Properties();

pro1.setProperty("lsh","0");

FileOutputStream fos1=new FileOutputStream("./lsh.property");

String description1="";

pro1.store(new OutputStreamWriter(fos1,"utf-8"), description1);

fos1.close();

\*/

int lsh=0;

Class.forName("com.mysql.jdbc.Driver");

Connection con=DriverManager.getConnection("jdbc:mysql://localhost:3306/sale?useUnicode=true&characterEncoding=utf-8","root","liuxin520");

String sql1="select \* from tuser";

PreparedStatement ps1=con.prepareStatement(sql1);

//ResultSet rs=ps1.executeQuery();

System.out.println("欢迎使用图书管理系统，请登陆");

int i=0;

int t=0;

String user="";

String chrName="";

String role="";

String password="";

while(i<=2) {

ResultSet rs=ps1.executeQuery();

Scanner scan=new Scanner(System.in);

System.out.println("请输入用户名");

String userName= scan.nextLine();

System.out.println("请输入密码");

String password1=scan.nextLine();

while(rs.next()) {

String user1=rs.getString("userName");

String pw1=rs.getString("password");

if(user1.equalsIgnoreCase(userName) && pw1.equalsIgnoreCase(password1)) {

t=1;

user=user1;

password=password1;

chrName=rs.getString("chrName");

role=rs.getString("role");

break;

}

}

if(t==0) {

System.out.println("用户名或密码不正确，请重新输入!");

}

if(t==1) {

break;

}

i++;

rs.close();

}

if(i>=3) {

System.out.println("最多只能尝试3次,程序退出!");

return;

}

int choose=menu(chrName);

while(choose!=6) {

switch(choose) {

case 1:charge(con,user);break;

case 2:inquirystatistics(con,user);break;//查询统计

case 3:Goodsmaintenance( con,role);break;

case 4:changepassword(con,password,user);break;//修改密码

case 5:dataoutput(con,password,user);break;//数据导出

case 6:return;//退出

default:System.out.println("输入无效，只能输入1-6，请重新输入");break;

}

choose=menu(chrName);

}

con.close();

}

public static int ReadFile() throws Exception{

Properties pro3=new Properties();

InputStream in3= new BufferedInputStream(new FileInputStream("./lsh.property"));

//pro3.load(new InputStreamReader(in3),"utf-8");

pro3.load(new InputStreamReader(in3));

in3.close();

String lsh=pro3.getProperty("lsh");

int x=Integer.parseInt(lsh);

//System.out.println(userName+password);

return x;

}

public static void ChangeFile() throws Exception{

Properties pro3=new Properties();

InputStream in3= new BufferedInputStream(new FileInputStream("./lsh.property"));

pro3.load(new InputStreamReader(in3));

in3.close();

int lsh=ReadFile();

pro3.setProperty("lsh", String.valueOf(lsh+1));

String description2="";

FileOutputStream fos=new FileOutputStream("./lsh.property");

pro3.store(new OutputStreamWriter(fos,"utf-8"),description2 );

fos.close();

}

//收费

public static void charge(Connection con,String user) throws Exception {

int lsh=ReadFile();

ChangeFile();

lsh++;

//System.out.println(lsh);

int count=0;

String sql1="select \* from tproduct";

String sql2="insert into tsaledetail(lsh,barCode,productName,price,count,operator,saleTime) values(?,?,?,?,?,?,?)";

Pattern p1=Pattern.compile("[0-9]{6}");

int t=0;

String barCode="";

String productName="";

float price=0;

String supply;

System.out.println("请输入条形码(6位数字字符)");

Scanner scan=new Scanner(System.in);

String s=scan.nextLine();

Matcher m1=p1.matcher(s);

boolean haspic=m1.find();

while(haspic==false || t==0) {

Scanner scan1=new Scanner(System.in);

if(haspic==false) {

System.out.println("条形码输入格式不正确，请重新输入:");

s=scan.nextLine();

m1=p1.matcher(s);

haspic=m1.find();

}

if(haspic==true) {

PreparedStatement ps2=con.prepareStatement(sql1);

ResultSet rs=ps2.executeQuery();

while(rs.next()) {

if(rs.getString("barCode").equals(s)) {

barCode=rs.getString("barCode");

productName=rs.getString("productName");

price=rs.getFloat("price");

supply=rs.getString("supply");

t=1;

break;

}

}

if(t==0) {

System.out.println("您输入的条形码不存在，请确认后重新输入");

s=scan.nextLine();

m1=p1.matcher(s);

haspic=m1.find();

}

if(t==1) {

break;

}

ps2.close();

rs.close();

}

}

//流水号

String Lsh="";

for(int i=0;i<5-String.valueOf(lsh).length();i++) {

Lsh=Lsh+"0";

}

Lsh=Lsh+String.valueOf(lsh);

if(t==1) {

System.out.println("请输入图书数量:");

count=scan.nextInt();

}

//System.out.println(Lsh);

//获取当前系统时间

Date date=new Date();

SimpleDateFormat format=new SimpleDateFormat("yyyy-MM-dd HH:mm:ss");

String datetime=format.format(date);

//插入一条记录

//System.out.println(Lsh+barCode+productName+price+count+user+datetime);

PreparedStatement ps2=con.prepareStatement(sql2);

ps2.setString(1, Lsh);

ps2.setString(2, barCode);

ps2.setString(3, productName);

ps2.setFloat(4, price);

ps2.setInt(5, count);

ps2.setString(6, user);

ps2.setString(7, datetime);

int counts=ps2.executeUpdate();

System.out.println("成功增加"+counts+"笔借书数据");

ps2.close();

}

//查询统计inquirystatistics

public static void inquirystatistics(Connection con,String user) throws Exception{

System.out.println("请输入日期(yyyy-MM-dd):");

Pattern p1=Pattern.compile("([0-9]{4})[-]([0-9]{2})[-]([0-9]{2})");

String s="";

boolean haspic=false;

while(haspic==false) {

Scanner scan=new Scanner(System.in);

s=scan.nextLine();

Matcher m1=p1.matcher(s);

haspic=m1.find();

if(haspic==true) {

break;

}

else {

System.out.println("你输入的日期格式不正确，请重新输入：");

}

}

int salecount=0;

int productcount=0;

float allmoney=0;

String sql="select \* from tsaledetail";

PreparedStatement ps1=con.prepareStatement(sql);

ResultSet rs=ps1.executeQuery();

ArrayList<String> list=new ArrayList<String>();

while(rs.next()) {

String datad=rs.getString("saleTime");

String[] datetime=datad.split(" ");

if(datetime[0].equals(s)) {

String lsh=rs.getString("lsh");

String productName=rs.getString("productName");

float price=rs.getFloat("price");

int count=rs.getInt("count");

float money=price\*count;

String time=datetime[1];

String list1=lsh+"\t"+productName+"\t"+price+"\t"+count+"\t"+money+"\t"+time+"\t"+user;

list.add(list1);

salecount++;

productcount=productcount+count;

allmoney=allmoney+money;

}

}

String[] slist=s.split("-");

System.out.println(slist[0]+"年"+slist[1]+"月"+slist[2]+"如下");

System.out.println("===\t===\t===\t===\t===\t===\t\t==");

for(String ss:list) {

System.out.println(ss);

}

System.out.println("日期："+slist[0]+"年"+slist[1]+"月"+slist[2]+"日");

System.out.println("请按任意键返回主界面");

ps1.close();

rs.close();

System.in.read();

}

//商品维护Goods maintenance

public static void Goodsmaintenance(Connection con,String role) throws Exception{

if(role.equals("管理员")) {

System.out.println("当前用户没有执行该项功能的权限");

return;

}

if(role.equals("管理员")) {

int choose=menu2();

while(choose!=5) {

switch(choose) {

case 1:ReadExcel(con);break;//从excel中导入数据

case 2:ReadTXT(con);break;//从文本文件导入数据

case 3:ReadfromKeyboard(con);break;//键盘输入

case 4:inquiry(con);break;//按商品名称查询

case 5:return;//返回主菜单

default:System.out.println("输入无效，只能输入1-5，请重新输入");break;

}

choose=menu2();

}

}

}

//从excel中导入数据

public static void ReadExcel(Connection con) throws Exception{

ArrayList<String> slist=new ArrayList<String>();

int count=0;

String sql1="insert into tproduct(barCode,productName,price,supply) values(?,?,?,?)";

String sql2="select \* from tproduct";

//PreparedStatement ps1=con.prepareStatement(sql1);

//PreparedStatement ps2=con.prepareStatement(sql2);

Workbook workbook = Workbook.getWorkbook(new File("./product.xls"));

Sheet sheet = workbook.getSheet(0);

for(int i=1;i<sheet.getRows();i++) {

for(int j=0;j<sheet.getColumns();j++) {

Cell cell=sheet.getCell(j, i);

slist.add(cell.getContents());

System.out.print(cell.getContents());

}

int m=0;

PreparedStatement ps2=con.prepareStatement(sql2);

ResultSet rs=ps2.executeQuery();

while(rs.next()) {

if(rs.getString("barCode").equals(slist.get(0))) {

m=1;

}

}

if(m==0) {

PreparedStatement ps1=con.prepareStatement(sql1);

ps1.setString(1, slist.get(0));

ps1.setString(2, slist.get(1));

ps1.setFloat(3, Float.parseFloat(slist.get(2)));

ps1.setString(4, slist.get(3));

count++;

int counts=ps1.executeUpdate();

ps1.close();

}

slist.clear();

rs.close();

}

System.out.println("成功从excel文件导入"+count+"条数据");

}

//从文本文件中导入数据

public static void ReadTXT(Connection con) throws Exception{

String sql1="insert into tproduct(barCode,productName,price,supply) values(?,?,?,?)";

String sql2="select \* from tproduct";

int count=0;

ArrayList<String> strlist=new ArrayList<String>();

File fis = new File("./product.txt");

BufferedReader br=new BufferedReader(new FileReader(fis));

br.readLine();

String str="";

while((str=br.readLine())!=null) {

strlist.add(str);

}

for(String s:strlist) {

int m=0;

String[] slist=s.split(" ");

PreparedStatement ps2=con.prepareStatement(sql2);

ResultSet rs=ps2.executeQuery();

while(rs.next()) {

if(rs.getString("barCode").equals(slist[0])) {

m=1;

}

}

if(m==0) {

PreparedStatement ps1=con.prepareStatement(sql1);

ps1.setString(1,slist[0]);

ps1.setString(2, slist[1]);

ps1.setFloat(3, Float.parseFloat(slist[2]));

ps1.setString(4, slist[3]);

count++;

int counts=ps1.executeUpdate();

ps1.close();

}

rs.close();

}

System.out.println("成功从TXT文件导入"+count+"条数据");

}

//从键盘中导入数据

public static void ReadfromKeyboard(Connection con) throws Exception{

System.out.println("请输入条形码(6位数字字符)，名称，以,分隔)");

String sql1="insert into tproduct(barCode,productName,price,supply) values(?,?,?,?)";

String sql2="select \* from tproduct";

int count=0;

String data="";

Scanner scan=new Scanner(System.in);

data=scan.nextLine();

int k=0;

String[] slist=data.split(",|，");

PreparedStatement ps2=con.prepareStatement(sql2);

ResultSet rs=ps2.executeQuery();

while(rs.next()) {

if(rs.getString("barCode").equals(slist[0])) {

System.out.println(rs.getString("barCode")+"条形码重复");

k=1;

}

}

if(k==0) {

PreparedStatement ps1=con.prepareStatement(sql1);

ps1.setString(1,slist[0]);

ps1.setString(2, slist[1]);

ps1.setFloat(3, Float.parseFloat(slist[2]));

ps1.setString(4, slist[3]);

count++;

int counts=ps1.executeUpdate();

ps1.close();

System.out.println("增加成功");

}

rs.close();

}

public static void inquiry(Connection con) throws Exception{

String sql2="select \* from tproduct";

ArrayList<String> slist=new ArrayList<String>();

int i=0;

System.out.println("请输入(经费不够，不支持模糊查询):");

Scanner scan=new Scanner(System.in);

String goods=scan.nextLine();

PreparedStatement ps1=con.prepareStatement(sql2);

ResultSet rs=ps1.executeQuery();

while(rs.next()) {

if(rs.getString("productName").equals(goods)) {

i++;

String s=i+"\t"+rs.getString("barCode")+"\t"+goods+"\t"+rs.getString("price")+"\t"+rs.getString("supply");

slist.add(s);

}

}

System.out.println("满足条件的记录总共"+i+"条，信息如下：");

System.out.println("===\t=====\t=====\t==\t====");

for(String s1:slist) {

System.out.println(s1);

}

}

//修改密码

public static void changepassword(Connection con,String password,String user) throws Exception{

Pattern p1=Pattern.compile(".\*[a-z].\*");

Pattern p2=Pattern.compile(".\*[A-Z].\*");

Pattern p3=Pattern.compile(".\*[0-9].\*");

int t=0;

String s;

String s1="";

while(true) {

System.out.println("请输入原密码");

Scanner scan=new Scanner(System.in);

s=scan.nextLine();

//int t=0;

if(s.equals(password)) {

while(true) {

System.out.println("请输入新的密码:");

s1=scan.nextLine();

Matcher m1=p1.matcher(s1);

Matcher m2=p2.matcher(s1);

Matcher m3=p3.matcher(s1);

boolean haspic1=m1.find();

boolean haspic2=m2.find();

boolean haspic3=m3.find();

if(s1.length()<6 || haspic1==false || haspic2==false || haspic3==false) {

System.out.println("您的密码不符合复杂性要求（密码长度不少于6个字符，至少有一个小写字母，至少有一个大写字母，至少一个数字），请重新输入：");

continue;

}

System.out.println("请输入确认密码:");

String s2=scan.nextLine();

if(s1.equals(s2)) {

t=1;

break;

}

else {

System.out.println("两次密码不一致,请重新输入!");

}

}

}

if(s.equals(password)==false) {

System.out.println("密码不正确，请重新输入:");

}

if(t==1) {

break;

}

}

if(t==1) {

String sql="update tuser set password=? where userName=?";

PreparedStatement ps=con.prepareStatement(sql);

ps.setString(1, s1);

ps.setString(2, user);

int count=ps.executeUpdate();

System.out.println("修改成功!");

ps.close();

}

}

//数据导出

public static void dataoutput(Connection con,String password,String user) throws Exception{

int choose=menu3();

while(true) {

switch(choose) {

case 1:WriteExcel(con,password,user);break;//导出到excel文件

case 2: WriteTXT(con,password,user);break;//导出到文本文件

case 3:return;

default: System.out.println("输入无效，请输入1-3：");break;

}

choose=menu3();

}

}

//导入Excel文件

public static void WriteExcel(Connection con,String password,String user) throws Exception{

ArrayList<String> strlist=new ArrayList<String>();

int counts=0;

String[] str=s.split(" ");

String sql1="select \* from tsaledetail";

PreparedStatement ps1=con.prepareStatement(sql1);

ResultSet rs1=ps1.executeQuery();

Date date=new Date();

SimpleDateFormat format=new SimpleDateFormat("yyyy-MM-dd");

String datetime=format.format(date);

String[] list=datetime.split("-");

WritableWorkbook wwb = Workbook.createWorkbook(new File("./saleDetail"+list[0]+list[1]+list[2]+".xls"));

WritableSheet ws = wwb.createSheet("明细表", 0);

for(int i=0;i<7;i++) {

Label labelC = new Label(i, 0, str[i]);

ws.addCell(labelC);

}

while(rs1.next()) {

Date date2=rs1.getDate("saletime");

String datetime1=rs1.getString("saletime");

String datetime2=format.format(date2);

//System.out.println(datetime2);

if(datetime2.equals(datetime)) {

String lsh=rs1.getString("lsh");

String braCode=rs1.getString("barCode");

String productName=rs1.getString("productName");

Float price=rs1.getFloat("price");

int count=rs1.getInt("count");

String operator=rs1.getString("operator");

String saletime=rs1.getString("saleTime");

String all=lsh+","+braCode+","+productName+","+price+","+count+","+operator+","+saletime;

strlist.add(all);

counts++;

}

}

for(int j=1;j<=strlist.size();j++) {

String s1=strlist.get(j-1);

String[] strlist2=s1.split(",|，");

for(int i=0;i<7;i++) {

Label labelC = new Label(i, j, strlist2[i]);

ws.addCell(labelC);

}

}

ps1.close();

rs1.close();

wwb.write();

wwb.close();

System.out.println("成功导出"+counts+"条数据到excel文件中");

}

//导入TXT文件

public static void WriteTXT(Connection con,String password,String user) throws Exception{

ArrayList<String> strlist=new ArrayList<String>();

int counts=0;

String str2="--------------------------------------------------------";

String sql1="select \* from tsaledetail";

PreparedStatement ps1=con.prepareStatement(sql1);

ResultSet rs1=ps1.executeQuery();

Date date=new Date();

SimpleDateFormat format=new SimpleDateFormat("yyyy-MM-dd");

String datetime=format.format(date);

String[] list=datetime.split("-");

File fis=new File("./saleDetail"+list[0]+list[1]+list[2]+".txt");

BufferedWriter bw=new BufferedWriter(new FileWriter(fis));

bw.write(s);

bw.newLine();

bw.write(str2);

bw.newLine();

while(rs1.next()) {

Date date2=rs1.getDate("saletime");

String datetime1=rs1.getString("saletime");

String datetime2=format.format(date2);

if(datetime2.equals(datetime)) {

String lsh=rs1.getString("lsh");

String braCode=rs1.getString("barCode");

String productName=rs1.getString("productName");

Float price=rs1.getFloat("price");

int count=rs1.getInt("count");

String operator=rs1.getString("operator");

String saletime=rs1.getString("saleTime");

String all=lsh+"\t"+braCode+"\t"+productName+"\t"+price+"\t"+count+"\t"+operator+"\t"+saletime;

strlist.add(all);

counts++;

bw.write(all);

bw.newLine();

}

}

ps1.close();

rs1.close();

bw.close();

System.out.println("成功导出"+counts+"条数据到TXT文件中");

}

public static int menu(String chrName) {

int choose;

System.out.println("===图书系统===");

System.out.println("1.借书");

System.out.println("2.查询统计");

System.out.println("3.维护");

System.out.println("4.修改密码");

System.out.println("5.数据导出");

System.out.println("6.退出");

System.out.println("当前管理员:"+chrName);

System.out.println("请输入1-6:");

Scanner scan=new Scanner(System.in);

choose=scan.nextInt();

return choose;

}

public static int menu2() {

int choose;

System.out.println("===图书管理维护===");

System.out.println("1.从excel中导入数据");

System.out.println("2.从文本文件导入数据");

System.out.println("3.键盘输入");

System.out.println("4.按商品名称查询");

System.out.println("5.返回主菜单");

System.out.println("请输入1-5:");

Scanner scan=new Scanner(System.in);

choose=scan.nextInt();

return choose;

}

public static int menu3() {

int choose;

System.out.println("===信息导出====");

System.out.println("1.导出到excel文件");

System.out.println("2.导出到文本文件");

System.out.println("3.返回主菜单");

System.out.println("请选择1-3：");

Scanner scan=new Scanner(System.in);

choose=scan.nextInt();

return choose;

}

}

# **4 系统测试**

未能成功运行

# **5 系统总结**

这个学期的java课我上的有些艰难，但是小作业也有很认真地完成，这个实验其实也有查阅资料的成分，但是还是失败了。这个图书管理系统和以前做的收银有些相似，画图的软件我也不熟悉就自己画的，我还是对先前的学习不够清晰，以后我要善于总结。