作业题目：选课系统：

具体的要求：

1. 本系统有三类用户，教师，学生，管理员，各自的功能如下：
2. 教师：

所包含功能为：

1. 注册功能：主要信息包括：用户名，密码，教师姓名，年龄，性别，专业，职称；
2. 修改个人信息：
3. 发布本学期开设的课程，本界面的内容包括：课程名称，课程学时，课程要求，课程要讲的内容，考核方式。
4. 查看某一门课程的选课情况（看有哪些学生选课），用表格展示；
5. 将选择自己课程的学生以Excel 的形式导出；

**教师类：**

import java.util.ArrayList;

import java.util.List;

public class Teacher {

private int Id;

private String UseName;

private String PassWord;

private String Name;

private String Age;

private String Sex;

private String Subject;

private String Zhicheng;

private List<Course>TCourse;

public Teacher()

{

this.TCourse=new ArrayList<Course>();

}

public Teacher( int inId,String inName, String inAge, String inSex,

String inSubject,String inZhicheng) {

this();

this.Id=inId;

this.Name=inName;

this.Age=inAge;

this.Sex=inSex;

this.Subject=inSubject;

this.Zhicheng=inZhicheng;

// TODO Auto-generated constructor stub

}

public int getId() {

return Id;

}

public void setId(int id) {

Id = id;

}

public String getUseName() {

return UseName;

}

public void setUseName(String useName) {

UseName = useName;

}

public String getPassWord() {

return PassWord;

}

public void setPassWord(String passWord) {

PassWord = passWord;

}

public String getName() {

return Name;

}

public void setName(String name) {

Name = name;

}

public String getAge() {

return Age;

}

public void setAge(String age) {

Age = age;

}

public String getSex() {

return Sex;

}

public void setSex(String sex) {

Sex = sex;

}

public String getSubject() {

return Subject;

}

public void setSubject(String subject) {

Subject = subject;

}

public String getZhicheng() {

return Zhicheng;

}

public void setZhicheng(String zhicheng) {

this.Zhicheng = zhicheng;

}

public List<Course> getTCourse() {

return TCourse;

}

public void setTCourse(List<Course> tCourse) {

TCourse = tCourse;

}

public String toString()

{

return "/n教师序号: "+this.Id+", 教师名: "+this.Name+", 年龄: "+this.Age+", 性别: "+

this.Sex+", \n专业 : "+this.Subject+", 职称: "+this.Zhicheng;

}

public boolean Login(String x,String y)

{

if(this.UseName.equals(x)&&this.PassWord.equals(y))

{

System.out.println("欢迎"+this.UseName+"教师光临！");

return true;

}

return false;

}}

**注册功能：**

/\*创建一个教师对象 添加到教师集合 添加到数据库中 \*/

**public** **static** **void** createTeacher() { System.***out***.println("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*注册老师\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

System.***out***.println("请输入教师序号:");

**int** teaId = *console*.nextInt();

System.***out***.println("请输入教师名字:");

String teaName = *console*.next();

System.***out***.println("请输入教师年龄:");

String teaAge = *console*.next();

System.***out***.println("请输入教师性别:");

String teaSex = *console*.next();

System.***out***.println("请输入教师专业:");

String teaSubject=*console*.next();

System.***out***.println("请输入教师职称:");

String teaZhicheng=*console*.next();

System.***out***.println("创建成功，欢迎使用!");

Teacher teacher = **new** Teacher(teaId, teaName, teaAge, teaSex, teaSubject, teaZhicheng);

*setTeacherList*(teacher);

}

**1、课程类：**

import java.util.ArrayList;

import java.util.List;

public class Course {

private String Teacher;

private String Name;

private int Id;

private String Time;//课程学时

private String Demand;//课程要求

private String Details;//课程要讲的内容

private String Exam;//考核方式

private List<Student> allStudents;

public Course(){

this.allStudents=new ArrayList<Student>();

}

public Course(String inName,String inTeacher,int inId,String inTime

,String inDemand,String inDetails,String inExam){

this();

this.Name=inName;

this.Teacher=inTeacher;

this.Id=inId;

this.Time=inTime;

this.Demand=inDemand;

this.Details=inDetails;

this.Exam=inExam;

}

public String getTeacher() {

return Teacher;

}

public void setTeacher(String teacher) {

Teacher = teacher;

}

public int getId() {

return Id;

}

public void setId(int id) {

this.Id = id;

}

public String getName() {

return Name;

}

public void setName(String name) {

Name = name;

}

public List<Student> getAllStudents() {

return allStudents;

}

public void setAllStudents(List<Student> allStudents) {

this.allStudents = allStudents;

}

public String getTime() {

return Time;

}

public void setTime(String time) {

Time = time;

}

public String getDemand() {

return Demand;

}

public void setDemand(String demand) {

Demand = demand;

}

public String getDetails() {

return Details;

}

public void setDetails(String details) {

Details = details;

}

public String getExam() {

return Exam;

}

public void setExam(String exam) {

Exam = exam;

}

public String toString()

{

return "\n\*课程号为: "+this.Id+"\n \*课程名称 : "+this.Name+", \*老师为: "+this.Teacher

+", \*课程学时: "+this.Time+", \*课程要求: "+this.Demand+", \*课程要讲的内容: "

+this.Details+" \*考核方式: "+this.Exam;

}

}

**2、查看学生选课情况：**

**private** **static** **void** getStuCourse()

{

System.***out***.println("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*查看学生选课信息\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

System.***out***.println("输入你要查看学生的序号");

String teaId = *console*.next();

Statement stmt = **null**;

ResultSet rs = **null**;

**int** t= 0;

**try** {

WritableWorkbook book = Workbook.*createWorkbook*(**new** File("test1.xls"));

stmt = *conn*.createStatement();

WritableFont font1 = **new** WritableFont(WritableFont.***TIMES***,15,WritableFont.***BOLD***);

WritableCellFormat format1=**new** WritableCellFormat(font1);

// 生成名为“第一页”的工作表，参数0表示这是第一页

WritableSheet sheet = book.createSheet("第一页", 0);

jxl.write.Label label1;

jxl.write.Label label2;

jxl.write.Label label3;

jxl.write.Label label4;

jxl.write.Label label5;

jxl.write.Label label6;

jxl.write.Label label7;

jxl.write.Label label8;

jxl.write.Label label9;

jxl.write.Label labe20;

//设置对齐

format1.setAlignment(jxl.format.Alignment.*CENTRE*);

format1.setVerticalAlignment(jxl.format.VerticalAlignment.*CENTRE*);

rs = stmt.executeQuery("SELECT \* FROM students AS c INNER JOIN stutea AS s" +

" ON s.teaID="+ teaId + " WHERE s.stuID=c.stuId;");

**while** (rs.next()) {

Student student = **new** Student();

student.setId(rs.getInt("stuId"));

student.setName(rs.getString("stuName"));

student.setAge(rs.getString("stuAge"));

student.setSex(rs.getString("stuSex"));

student.setSubject(rs.getString("stuSubject"));

student.setClasses(rs.getString("stuClasses"));

student.setSno(rs.getString("stuSno"));

student.setEmail(rs.getString("stuEmail"));

student.setPhoneNumber(rs.getString("stuPhoneNumber"));

student.setQQ(rs.getString("stuQQ"));

System.***out***.println(student.toString());

label1=**new** jxl.write.Label(0,t,rs.getString("stuId"));

label2=**new** jxl.write.Label(1,t,rs.getString("stuName"));

label3=**new** jxl.write.Label(2,t,rs.getString("stuAge"));

label4=**new** jxl.write.Label(3,t,rs.getString("stuSex"));

label5=**new** jxl.write.Label(4,t,rs.getString("stuSubject"));

label6=**new** jxl.write.Label(5,t,rs.getString("stuClasses"));

label7=**new** jxl.write.Label(6,t,rs.getString("stuSno"));

label8=**new** jxl.write.Label(7,t,rs.getString("stuEmail"));

label9=**new** jxl.write.Label(8,t,rs.getString("stuPhoneNumber"));

labe20=**new** jxl.write.Label(9,t,rs.getString("stuQQ"));

sheet.addCell(label1);

sheet.addCell(label2);

sheet.addCell(label3);

sheet.addCell(label4);

sheet.addCell(label5);

sheet.addCell(label6);

sheet.addCell(label7);

sheet.addCell(label8);

sheet.addCell(label9);

sheet.addCell(labe20);

t++;

}

// 写入数据并关闭文件

book.write();

book.close();

} **catch** (Exception e) {

// **TODO** Auto-generated catch block

e.printStackTrace();

}

}

**3、修改老师登录密码：**

**public** **static** **void** changeteaPassword() {

System.***out***.println("请输入您的名字:");

String name = *console*.next();

System.***out***.println("请输入您已经确定的密码:");

String newPassword = *console*.next();

String sql = " " + "UPDATE tealogin SET teaPassword=" + "'" + newPassword

+ "' WHERE teaName=" + "'" + name + "'";

PreparedStatement ptmt;

**try** {

ptmt = *conn*.prepareStatement(sql);

ptmt.execute();

System.***out***.println("修改密码成功,请重新登录!");

*studentLogin*();

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block

e.printStackTrace();

}

}

**4、创建课程：**

/\*创建课程对象 添加到课程集合 添加到数据库中

\* @throws SQLException \*/

**public** **static** **void** createCourse(**int** teaID) {

System.***out***.println("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*创建课程\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

System.***out***.println("请输入课程序号:");

**int** couId = *console*.nextInt();

System.***out***.println("请输入课程名:");

String couName = *console*.next();

System.***out***.println("请输入授课老师:");

String couTeacher = *console*.next();

System.***out***.println("请输入课程学时:");

String couTime=*console*.next();

System.***out***.println("请输入课程要求:");

String couDemand=*console*.next();

System.***out***.println("请输入课程主要内容:");

String couDetails=*console*.next();

System.***out***.println("请输入考核方式:");

String couExam=*console*.next();

Course course = **new** Course(couName, couTeacher, couId, couTime, couDemand, couDetails, couExam);

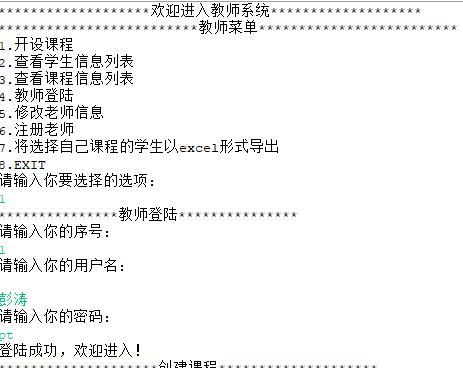
System.***out***.println("课程创建成功!");

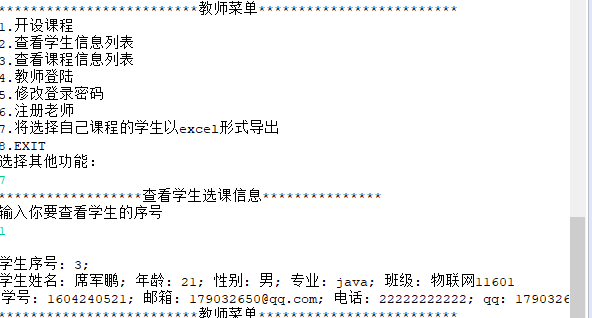
*setCourseList*(course);

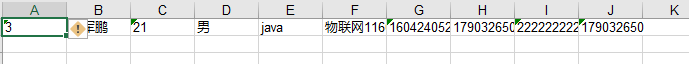
}

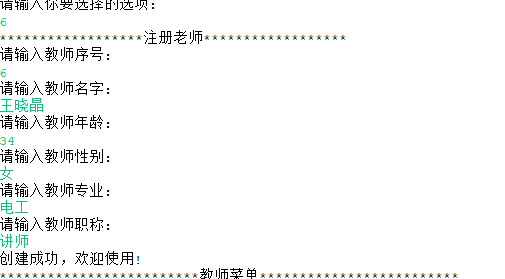
**运行结果：**

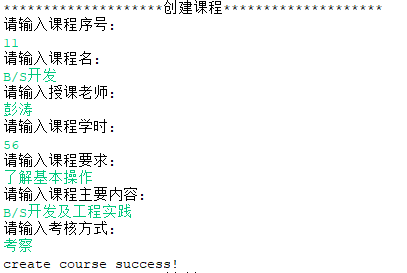
****

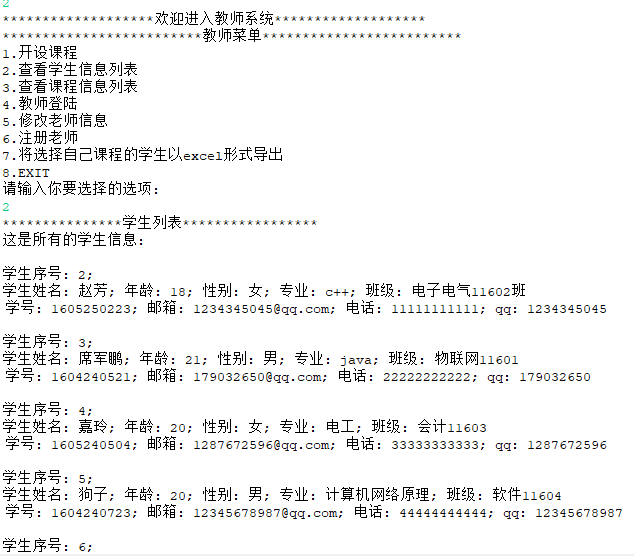
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1. 学生：
   1. 注册功能：主要信息包括：用户名，密码，姓名，年龄，性别，专业，班级，学号；
   2. 修改个人信息：包括姓名，联系方式（邮箱，qq，和手机密码）；
   3. 查看所有教师的开课情况，具体的操作是：先选择老师，然后列出该老师的所有课程（可以用List实现）；，点击课程，显示该课程的情况；
   4. 选课：选择某一个老师的课程。

**学生类：**

import java.util.ArrayList;

import java.util.List;

public class Student {

private String UseName;

private String PassWord;

private int Id;

private String Name;

private String Age;

private String Sex;

private String Subject;

private String Classes;

private String Sno;

private String Email;

private String PhoneNumber;

private String QQ;

private List<Course> PCourses;

public Student()

{

this.PCourses=new ArrayList<Course>();

}

public Student(int inId, String inName, String inAge, String inSex,

String inSubject,String inClasses,String inSno,String inEmail,

String inPhoneNumber,String inQQ){

this();

this.Id=inId;

this.Name=inName;

this.Age=inAge;

this.Sex=inSex;

this.Subject=inSubject;

this.Classes=inClasses;

this.Sno=inSno;

this.Email=inEmail;

this.PhoneNumber=inPhoneNumber;

this.QQ=inQQ;

}

public boolean Login(String x,String y)

{

if(this.UseName.equals(x)&&this.PassWord.equals(y))

{

System.out.println("欢迎"+this.UseName+"学生光临！");

return true;

}

return false;

}

public String getUseName() {

return UseName;

}

public void setUseName(String useName) {

UseName = useName;

}

public String getPassWord() {

return PassWord;

}

public void setPassWord(String passWord) {

PassWord = passWord;

}

public String getName() {

return Name;

}

public int getId() {

return Id;

}

public void setId(int id) {

Id = id;

}

public void setName(String name) {

Name = name;

}

public String getAge() {

return Age;

}

public void setAge(String age) {

Age = age;

}

public String getSex() {

return Sex;

}

public void setSex(String sex) {

Sex = sex;

}

public String getSubject() {

return Subject;

}

public void setSubject(String subject) {

Subject = subject;

}

public void setPCourses(List<Course> pCourses) {

PCourses = pCourses;

}

public String getClasses() {

return Classes;

}

public void setClasses(String classes1) {

Classes = classes1;

}

public String getSno() {

return Sno;

}

public void setSno(String sno) {

Sno = sno;

}

public List<Course> getPCourses() {

return PCourses;

}

public void setAllCourses(List<Course> PCourses) {

this.PCourses = PCourses;

}

public String getEmail() {

return Email;

}

public void setEmail(String email) {

Email = email;

}

public String getPhoneNumber() {

return PhoneNumber;

}

public void setPhoneNumber(String phoneNumber) {

PhoneNumber = phoneNumber;

}

public String getQQ() {

return QQ;

}

public void setQQ(String qQ) {

QQ = qQ;

}

public String toString()

{

return "\n学生序号: "+this.Id+"; \n学生姓名: "+this.Name+"; 年龄: "+this.Age

+"; 性别: "+this.Sex+"; 专业: "+this.Subject+

"; 班级: "+this.Classes+"\n 学号: "+this.Sno+"; 邮箱: "+this.Email+

"; 电话: "+this.PhoneNumber+"; qq: "+this.QQ;

}

}

**1、注册功能：**

/\*创建一个学生对象 添加到学生集合 添加到数据库中 \*/

**public** **static** **void** createStudent() {

System.***out***.println("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*注册学生信息\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

System.***out***.println("请输入学生序号:");

**int** stuId = *console*.nextInt();

System.***out***.println("请输入学生名字:");

String stuName = *console*.next();

System.***out***.println("请输入学生年龄:");

String stuAge = *console*.next();

System.***out***.println("请输入学号:");

String stuSno = *console*.next();

System.***out***.println("请输入学生性别:");

String stuSex = *console*.next();

System.***out***.println("请输入学生专业:\n");

String stuSubject=*console*.next();

System.***out***.println("请输入学生班级:");

String stuClasses=*console*.next();

System.***out***.println("请输入邮箱:");

String stuEmail=*console*.next();

System.***out***.println("请输入电话号码:");

String stuPhoneNumber=*console*.next();

System.***out***.println("请输入qq号:");

String stuQQ=*console*.next();

System.***out***.println("创建学生信息成功，欢迎使用!");

Student student = **new** Student(stuId, stuName, stuAge, stuSex, stuSubject, stuClasses, stuSno, stuEmail, stuPhoneNumber, stuQQ);

*setStudentList*(student);

}

/\*修改学生登录密码 \*/

**public** **static** **void** changestuPassword() {

System.***out***.println("请输入您的名字:");

String name = *console*.next();

System.***out***.println("请输入您已经确定的密码:");

String newPassword = *console*.next();

String sql = " " + "UPDATE stulogin SET stuPassword=" + "'" + newPassword

+ "' WHERE stuName=" + "'" + name + "'";

PreparedStatement ptmt;

**try** {

ptmt = *conn*.prepareStatement(sql);

ptmt.execute();

System.***out***.println("修改密码成功,请重新登录!");

*studentLogin*();

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block

e.printStackTrace();

}

}

1. **查看老师开课**

**private** **static** **void** getTeaCourses()

{

System.***out***.println("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*查看老师开课\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

System.***out***.println("输入你要查看老师的序号");

String teaId = *console*.next();

Statement stmt = **null**;

ResultSet rs = **null**;

**try** {

stmt = *conn*.createStatement();

rs = stmt.executeQuery("SELECT \* FROM courses AS c INNER JOIN teacourses AS s" +

" ON s.teaID="+ teaId + " WHERE s.couID=c.couID;");

**while** (rs.next()) {

Course course = **new** Course();

course.setId(rs.getInt("couId"));

course.setName(rs.getString("couName"));

course.setTeacher(rs.getString("couTeacher"));

course.setTime(rs.getString("couTime"));

course.setExam(rs.getString("couExam"));

course.setDetails(rs.getString("couDetails"));

course.setDemand(rs.getString("couDemand"));

System.***out***.println(course.toString());

}

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block

e.printStackTrace();

}

}

1. **获取课程：**

/\*从数据库中获取课程列表集合\*/

**public** **static** **void** getCourseList() {

System.***out***.println("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*课程列表\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

System.***out***.println("请从以下选出您的课程:");

Statement stmt = **null**;

ResultSet rs = **null**;

**try** {

stmt = *conn*.createStatement();

rs = stmt.executeQuery("select \* from courses");

**while** (rs.next()) {

Course course = **new** Course();

course.setId(rs.getInt("couId"));

course.setName(rs.getString("couName"));

course.setTeacher(rs.getString("couTeacher"));

course.setTime(rs.getString("couTime"));

course.setExam(rs.getString("couExam"));

course.setDetails(rs.getString("couDetails"));

course.setDemand(rs.getString("couDemand"));

*courseList*.put(course.getId(), course);

System.***out***.println(course.toString());

}

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block

e.printStackTrace();

}

}

1. **学生选课**

/\*从数据库中得到学生已经选择的课 \*/

**private** **static** **void** getStuCourses(**int** stuID) {

System.***out***.println("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*查询课程\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

System.***out***.println("您已经选择的课程有：");

Statement stmt = **null**;

ResultSet rs = **null**;

**try** {

stmt = *conn*.createStatement();

rs = stmt.executeQuery("SELECT \* FROM courses AS c INNER JOIN stucourses AS s" +

" ON s.stuID="+ stuID + " WHERE s.couID=c.couID;");

**while** (rs.next()) {

Course course = **new** Course();

course.setId(rs.getInt("couId"));

course.setName(rs.getString("couName"));

course.setTeacher(rs.getString("couTeacher"));

course.setTime(rs.getString("couTime"));

course.setExam(rs.getString("couExam"));

course.setDetails(rs.getString("couDetails"));

course.setDemand(rs.getString("couDemand"));

System.***out***.println(course.toString());

}

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block

e.printStackTrace();

}

}

/\*学生选课 \*/

**private** **static** **void** studentChooseCourse(**int** stuID) {

System.***out***.println("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*学生选课\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

*getStuCourses*(stuID);

*getCourseList*();

**int** flag = 1;

**do** {

System.***out***.println("请输入课程号 :");

**int** couID = *console*.nextInt();

Set<Integer> keySet = *courseList*.keySet();

Iterator<Integer> keyIt = keySet.iterator();

**while** (keyIt.hasNext()) {

**if** (couID == keyIt.next()) {

Course c = *courseList*.get(couID);

*stuCourseList*.add(c);

}

}

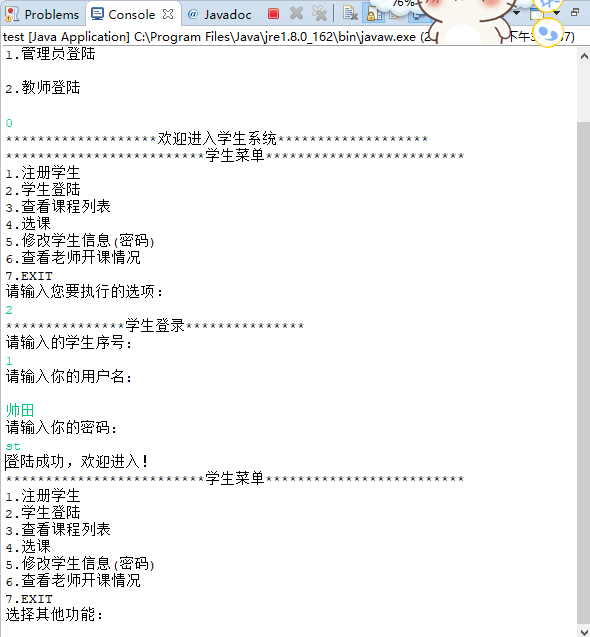
System.***out***.println("您还要继续选课吗？ 0/1");

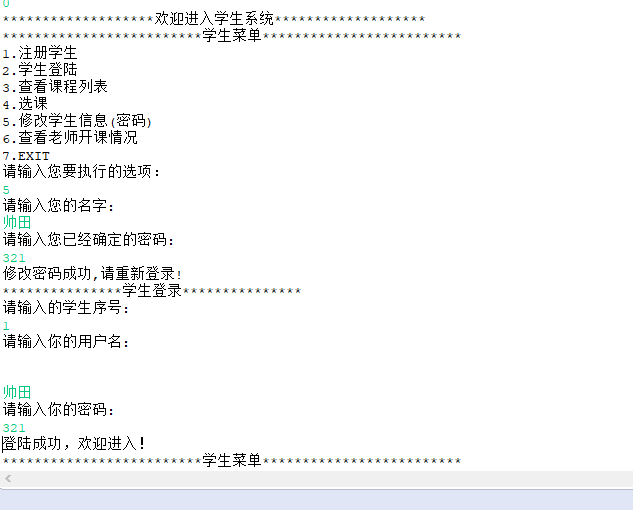
flag = *console*.nextInt();

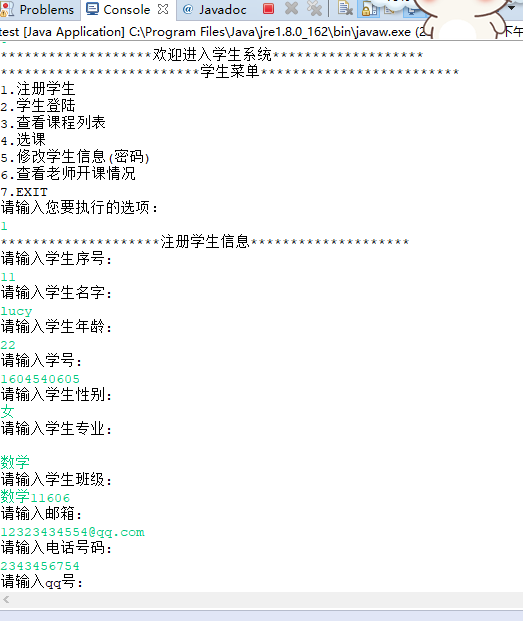
} **while** (flag == 1);

*saveDataToMysql*(stuID);

}

**运行结果**





（3）管理员

管理员登录后，主要的功能：

A 审核老师发布的课程，没有审核或者审核没通过的课程，学生是无法选课的；

**主要代码**

import java.io.File;

import java.io.IOException;

import java.sql.Connection;

import java.sql.PreparedStatement;

import java.sql.ResultSet;

import java.sql.SQLException;

import java.sql.Statement;

import java.util.ArrayList;

import java.util.HashMap;

import java.util.Iterator;

import java.util.List;

import java.util.Map;

import java.util.Scanner;

import java.util.Set;

import jxl.Workbook;

import jxl.write.Label;

import jxl.write.WritableCellFormat;

import jxl.write.WritableFont;

import jxl.write.WritableSheet;

import jxl.write.WritableWorkbook;

import java.io.File;

public class test {

private static Scanner console = new Scanner(System.in); //键盘输入

private static String managerPass = "12345"; //管理员登陆密码为12345

private static Connection conn = DBUtil.getConnection();//连接数据库

private static List<Course> stuCourseList = new ArrayList<Course>();

private static List<Course> teaCourseList = new ArrayList<Course>();//定义集合保存课程

private static Map<Integer, Course> courseList = new HashMap<Integer, Course>(); //map接口 无序存放，key（即现在的integer）不允许重复

public static void main(String[] args) {

managerTest();

}

/\*学生\*/

public static void showMenuStu() {

System.out.println("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*学生菜单\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

System.out.println("1.注册学生");

System.out.println("2.学生登陆");

System.out.println("3.查看课程列表");

System.out.println("4.选课");

System.out.println("5.修改学生信息(密码)");

System.out.println("6.查看老师开课情况");

System.out.println("7.EXIT");

}

/\*管理员\*/

public static void showMenuMa(){

System.out.println("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*管理员菜单\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

System.out.println("1.审核课程");

System.out.println("2.查看学生信息列表");

System.out.println("3.查看课程信息列表");

System.out.println("4.EXIT");

}

/\*教师\*/

public static void showMenuTea(){

System.out.println("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*教师菜单\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

System.out.println("1.开设课程");

System.out.println("2.查看学生信息列表");

System.out.println("3.查看课程信息列表");

System.out.println("4.教师登陆");

System.out.println("5.修改登录密码");

System.out.println("6.注册老师");

System.out.println("7.将选择自己课程的学生以excel形式导出");

System.out.println("8.EXIT");

}

/\*选择身份\*/

private static void managerTest() {

System.out.println("0.学生登录\n");

System.out.println("1.管理员登陆\n");

System.out.println("2.教师登陆\n");

System.out.println("请输入你要选择的系统：\n");

int info = console.nextInt();

if (info == 1) {

System.out.println("请输入管理员密码:");

String password = console.next();

if (password.equals(managerPass)) {

System.out.println("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*欢迎进入管理员系统\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

getMenuForManager();

}

else {

System.out.println("您的密码错误！");

}

}

else if (info == 0) {

System.out.println("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*欢迎进入学生系统\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

getMenuForStu();

}

else if(info==2){

System.out.println("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*欢迎进入教师系统\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

getMenuForTea();

}

else {

System.out.println("请按要求输入！");

managerTest();

}

}

/\*学生菜单 \*/

private static void getMenuForStu(){

showMenuStu();

System.out.println("请输入您要执行的选项：");

int info= console.nextInt();

while(info!=7)

{

switch(info)

{

case 1:createStudent();break;//注册学生

case 2:studentLogin();break;//学生登录

case 3:getCourseList();break;//获取课程

case 4:studentChooseCourse();break;//选择课程

case 5:changestuPassword();break;//修改密码

case 6:getTeaCourses(); break;//选课

default: System.out.println("请输入正确的选择! ");

}

showMenuStu();

System.out.println("选择其他功能： ");

info = console.nextInt();

}

}

/\*管理员菜单\*/

private static void getMenuForManager(){

showMenuMa();

System.out.println("请输入您要执行的选项：");

int info= console.nextInt();

while(info!=4)

{

switch(info)

{

case 1:break;

case 2:getStudentList();break;

case 3:getCourseList();break;

default: System.out.println("请输入正确的选择! ");

}

showMenuMa();

System.out.println("选择其他功能： ");

info = console.nextInt();

}

}

/\* 教师菜单\*/

private static void getMenuForTea(){

showMenuTea();

System.out.println("请输入你要选择的选项:");

int info= console.nextInt();

while(info!=8)

{

switch(info)

{

case 1:createCourse();break;//创建课程

case 2:getStudentList();break;//获取学生列表

case 3:getCourseList();break;//获取课程信息

case 4:teacherLogin();break;//教师登录

case 5:changeteaPassword();break;//修改登录密码

case 6:createTeacher();break;

case 7:getStuCourse();break;//获取学生选课信息

default: System.out.println("请输入正确的选项：");

}

showMenuTea();

System.out.println("选择其他功能： ");

info = console.nextInt();

}

}

/\*学生登录\*/

public static String studentLogin() {

boolean flag;

System.out.println("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*学生登录\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

System.out.println("请输入的学生序号:");

int stuID = console.nextInt();

System.out.println("请输入你的用户名:\n");

String stuName = console.next();

System.out.println("请输入你的密码:");

String stuPassword = console.next();

String name = null, password = null;

Statement stmt; //数据库操作

ResultSet rs; //保存从数据库中查询的结果

try {

stmt = conn.createStatement(); //实例化Statement对象

rs = stmt.executeQuery("SELECT \* FROM stulogin WHERE id=" + stuID);

while (rs.next()) {

name = rs.getString("stuName"); //用getStringd方法取得信息

password = rs.getString("stuPassword");

}

} catch (SQLException e) {

// TODO Auto-generated catch block

e.printStackTrace();

}

if (stuName.equals(name) && stuPassword.equals(password)) {

System.out.println("登陆成功，欢迎进入！");

flag=true;

} else {

System.out.println("您的用户名或密码有误!");

flag=false;

}

return stuID+","+flag;

}

/\*教师登录 \*/

public static String teacherLogin (){

boolean flag;

System.out.println("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*教师登陆\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

System.out.println("请输入你的序号:");

int teaID = console.nextInt();

System.out.println("请输入你的用户名:\n");

String teaName = console.next();

System.out.println("请输入你的密码:");

String teaPassword = console.next();

String name = null, password = null;

Statement stmt;

ResultSet rs;

try {

stmt = conn.createStatement();

rs = stmt.executeQuery("SELECT \* FROM tealogin WHERE id=" + teaID);

while (rs.next()) {

name = rs.getString("teaName");

password = rs.getString("teaPassword");

}

} catch (SQLException e) {

// TODO Auto-generated catch block

e.printStackTrace();

}

if (teaName.equals(name) && teaPassword.equals(password)) {

System.out.println("登陆成功，欢迎进入！");

flag=true;

} else {

System.out.println("您的用户名或密码有误!");

flag=false;

}

return teaID+","+flag;

}

/\*判断是否已经登陆 以防还未登陆就进行选课 \*/

public static void studentChooseCourse()

{

String info=studentLogin();

while(true)

{

String[] infos=info.split(",");

String flag =infos[1];

int stuID =Integer.parseInt(infos[0]);

if (flag.equals("false"))

{

System.out.println("请先登录！");

info=studentLogin();

}

else

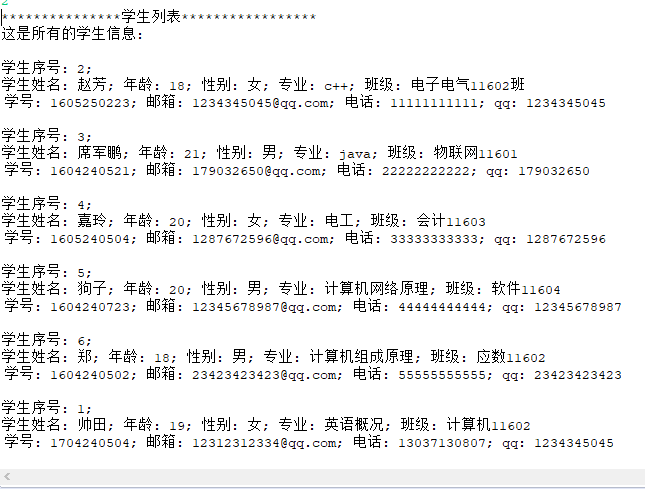
{

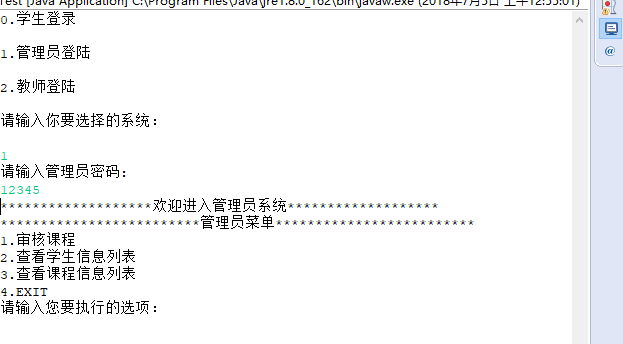
studentChooseCourse(stuID); }

}

}

**运行结果**





1. 根据功能，自己设计数据库。

**连接数据库：**

import java.sql.DriverManager;

import com.mysql.jdbc.Connection;

import java.sql.SQLException;

public class DBUtil {

private static final String URL="jdbc:mysql://localhost:3306/test?useUnicode=true&characterEncoding=UTF-8";

private static final String USER="root";

private static final String PASSWORD="root";

private static Connection conn = null;

static {

try {

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

conn = (Connection) DriverManager.getConnection(URL, USER, PASSWORD);

} catch (ClassNotFoundException e) {

// TODO Auto-generated catch block

e.printStackTrace();

} catch (SQLException e) {

// TODO Auto-generated catch block

e.printStackTrace();

}

}

public static Connection getConnection(){

return conn;

}

}

**与数据库相关：**

/\*教师集合 将教师集合保存在数据库中\*/

**private** **static** **void** setTeacherList(Teacher teacher) {

String sql = ""+ "INSERT teachers (teaId,teaName,teaAge,teaSex,teaSubject,teaZhicheng) "

+ "VALUES(?,?,?,?,?,?)";

String sql2 = "INSERT tealogin (teaName,teaPassword) VALUES(?,12345)";

PreparedStatement ptmt;

**try** {

ptmt = *conn*.prepareStatement(sql);

ptmt.setInt(1, teacher.getId());

ptmt.setString(2, teacher.getName());

ptmt.setString(3, teacher.getAge());

ptmt.setString(4, teacher.getSex());

ptmt.setString(5, teacher.getSubject());

ptmt.setString(6, teacher.getZhicheng());

ptmt.execute();

ptmt = *conn*.prepareStatement(sql2);

ptmt.setString(1, teacher.getName());

ptmt.execute();

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block

e.printStackTrace();

}

}

/\*将学生的选课保存到数据库中 \*/

**private** **static** **void** saveDataToMysql(**int** stuId) {

String sql = "INSERT stucourses(stuID,couID) VALUES(" + stuId + ",?)";

PreparedStatement ptmt = **null**;

**try** {

ptmt = *conn*.prepareStatement(sql);

**for** (Course c : *stuCourseList*) {

System.***out***.println("b");

ptmt.setInt(1, c.getId());

ptmt.execute();

}

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block

e.printStackTrace();

}

}

/\*从数据库中得到学生已经选择的课 \*/

**private** **static** **void** getStuCourses(**int** stuID) {

System.***out***.println("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*查询课程\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

System.***out***.println("您已经选择的课程有：");

Statement stmt = **null**;

ResultSet rs = **null**;

**try** {

stmt = *conn*.createStatement();

rs = stmt.executeQuery("SELECT \* FROM courses AS c INNER JOIN stucourses AS s" +

" ON s.stuID="+ stuID + " WHERE s.couID=c.couID;");

**while** (rs.next()) {

Course course = **new** Course();

course.setId(rs.getInt("couId"));

course.setName(rs.getString("couName"));

course.setTeacher(rs.getString("couTeacher"));

course.setTime(rs.getString("couTime"));

course.setExam(rs.getString("couExam"));

course.setDetails(rs.getString("couDetails"));

course.setDemand(rs.getString("couDemand"));

System.***out***.println(course.toString());

}

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block

e.printStackTrace();

}

}

/\*从数据库中获取学生信息\*/

**public** **static** **void** getStudentList() {

System.***out***.println("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*学生列表\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

System.***out***.println("这是所有的学生信息:");

Statement stmt = **null**;

ResultSet rs = **null**;

**try** {

stmt = *conn*.createStatement();

rs = stmt.executeQuery("select \* from students");

**while** (rs.next()) {

Student student = **new** Student();

student.setId(rs.getInt("stuID"));

student.setName(rs.getString("stuName"));

student.setAge(rs.getString("stuAge"));

student.setSno(rs.getString("stuSno"));

student.setSex(rs.getString("stuSex"));

student.setSubject(rs.getString("stuSubject"));

student.setQQ(rs.getString("stuQQ"));

student.setPhoneNumber(rs.getString("stuPhoneNumber"));

student.setEmail(rs.getString("stuEmail"));

student.setClasses(rs.getString("stuClasses"));

System.***out***.println(student.toString());

}

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block

e.printStackTrace();

}

}

/\*y从数据库中获取课程列表集合\*/

**public** **static** **void** getCourseList() {

System.***out***.println("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*课程列表\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

System.***out***.println("请从以下选出您的课程:");

Statement stmt = **null**;

ResultSet rs = **null**;

**try** {

stmt = *conn*.createStatement();

rs = stmt.executeQuery("select \* from courses");

**while** (rs.next()) {

Course course = **new** Course();

course.setId(rs.getInt("couId"));

course.setName(rs.getString("couName"));

course.setTeacher(rs.getString("couTeacher"));

course.setTime(rs.getString("couTime"));

course.setExam(rs.getString("couExam"));

course.setDetails(rs.getString("couDetails"));

course.setDemand(rs.getString("couDemand"));

*courseList*.put(course.getId(), course);

System.***out***.println(course.toString());

}

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block

e.printStackTrace();

}

}

/\*课程集合 将课程信息保存在数据库中 \*/

**private** **static** **void** setCourseList(Course course) {

*courseList*.put(course.getId(), course);

String sql = "" + "INSERT courses (couId,couName,couTeacher,couTime,couDemand,couDetails,couExam) "

+ "VALUES(?,?,?,?,?,?,?)";

**try** {

PreparedStatement ptmt = *conn*.prepareStatement(sql);

ptmt.setInt(1, course.getId());

ptmt.setString(2, course.getName());

ptmt.setString(3, course.getTeacher());

ptmt.setString(4, course.getTime());

ptmt.setString(5, course.getDemand());

ptmt.setString(6, course.getDetails());

ptmt.setString(7, course.getExam());

ptmt.execute();

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block

e.printStackTrace();

}

}

/\*将学生信息保存在数据库中 \*/

**private** **static** **void** setStudentList(Student student) {

String sql = ""+ "INSERT students (stuId,stuName,stuSex,stuAge,stuSubject,stuClasses,stuSno,stuEmail,stuPhoneNumber,stuQQ) "

+ "VALUES(?,?,?,?,?,?,?,?,?,?)";

String sql2 = "INSERT stulogin (stuName,stuPassWord) VALUES(?,12345)";

PreparedStatement ptmt;

**try** {

ptmt = *conn*.prepareStatement(sql);

ptmt.setInt(1, student.getId());

ptmt.setString(2, student.getName());

ptmt.setString(3, student.getSex());

ptmt.setString(4, student.getAge());

ptmt.setString(5, student.getSubject());

ptmt.setString(6, student.getClasses());

ptmt.setString(7, student.getSno());

ptmt.setString(8, student.getEmail());

ptmt.setString(9, student.getPhoneNumber());

ptmt.setString(10, student.getQQ());

ptmt.execute();

ptmt = *conn*.prepareStatement(sql2);

ptmt.setString(1, student.getName());

ptmt.execute();

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block

e.printStackTrace();

}

}

/\*y创建课程对象 添加到课程集合 添加到数据库中

\* @throws SQLException \*/

**public** **static** **void** createCourse(**int** teaID) {

System.***out***.println("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*创建课程\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

System.***out***.println("请输入课程序号:");

**int** couId = *console*.nextInt();

System.***out***.println("请输入课程名:");

String couName = *console*.next();

System.***out***.println("请输入授课老师:");

String couTeacher = *console*.next();

System.***out***.println("请输入课程学时:");

String couTime=*console*.next();

System.***out***.println("请输入课程要求:");

String couDemand=*console*.next();

System.***out***.println("请输入课程主要内容:");

String couDetails=*console*.next();

System.***out***.println("请输入考核方式:");

String couExam=*console*.next();

Course course = **new** Course(couName, couTeacher, couId, couTime, couDemand, couDetails, couExam);

System.***out***.println("课程创建成功!");

*setCourseList*(course);

}

/\*判断是否已经登陆 以防还未登陆就进行建立课程 \*/

**public** **static** **void** createCourse() {

String info=*teacherLogin*();

**while**(**true**){

String[] infos=info.split(",");

String flag =infos[1];

**int** teaID =Integer.*parseInt*(infos[0]);

**if** (flag.equals("false")) {

System.***out***.println("请重新登录");

info=*teacherLogin*();

} **else** {

*createCourse*(teaID);

}

}

}

/\*y创建一个学生对象 添加到学生集合 添加到数据库中 \*/

**public** **static** **void** createStudent() {

System.***out***.println("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*注册学生信息\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

System.***out***.println("请输入学生序号:");

**int** stuId = *console*.nextInt();

System.***out***.println("请输入学生名字:");

String stuName = *console*.next();

System.***out***.println("请输入学生年龄:");

String stuAge = *console*.next();

System.***out***.println("请输入学号:");

String stuSno = *console*.next();

System.***out***.println("请输入学生性别:");

String stuSex = *console*.next();

System.***out***.println("请输入学生专业:\n");

String stuSubject=*console*.next();

System.***out***.println("请输入学生班级:");

String stuClasses=*console*.next();

System.***out***.println("请输入邮箱:");

String stuEmail=*console*.next();

System.***out***.println("请输入电话号码:");

String stuPhoneNumber=*console*.next();

System.***out***.println("请输入qq号:");

String stuQQ=*console*.next();

System.***out***.println("创建学生信息成功，欢迎使用!");

Student student = **new** Student(stuId, stuName, stuAge, stuSex, stuSubject, stuClasses, stuSno, stuEmail, stuPhoneNumber, stuQQ);

*setStudentList*(student);

}

