**实 验 报 告**

**课程名称：** 移动应用开发

**学 院： 计算机科学与工程学院**

**专 业：** 计算机科学与技术 **班 级： 18-4**

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**山 东 科 技 大 学 教 务 处 制**

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| **组 别** |  | **姓 名** | **徐兴乐** | **同组实验者** |  |
| **实验项目**  **名称** | **数据存储** | | **实验日期** | **2020/12/16** | |
| **教师评语** |  | | | | |
| **实验成绩：** | | | **指导教师（签名）：**  **年 月 日** | | |
| **一、实验目的：**  1、熟练掌握Android中基于文件和数据库的数据管理功能。  **二、实验内容：**  1、设计实现一个管理学生及其选修的课程、课程成绩的Android APP。APP的基本功能包括：  （1）用户登录成功后可以使用APP，登录APP所使用的用户名、密码存储在文件中；  （2）若无此用户存在，可以通过注册进行创建；  （3）进入主页面后，可选择进入学生信息或课程信息  （4）设置页面底部导航，引导对学生的修改，添加，修改，浏览操作；  （5）学生信息、课程信息、学生选课结果及成绩存储在SQLite数据库中，并提供学生添加、删除、修改、浏览（点击某个学生后，呈现学生选修的课程及其成绩）功能，以及学生成绩的添加、删除和修改功能。  （6）使用listview控件展示学生列表以及学生成绩列表。  登录及注册页面：    主页面：    学生信息页面      课程信息页面：    **三、核心代码：**  主页面代码：  public class Information extends AppCompatActivity {   @Override  protected void onCreate(Bundle savedInstanceState) {  super.onCreate(savedInstanceState);  setContentView(R.layout.*activity\_information*);  Button stu = (Button) findViewById(R.id.*stu*);  stu.setOnClickListener(new View.OnClickListener() {  @Override  public void onClick(View v) {  Intent intent = new Intent(Information.this, Stu\_info.class);  startActivity(intent);  }  });  Button ke = (Button) findViewById(R.id.*course*);  ke.setOnClickListener(new View.OnClickListener() {  @Override  public void onClick(View v) {  Intent intent = new Intent(Information.this, KeDetail.class);  startActivity(intent);  }  });  } }  学生信息界面及布局代码：  增删改三个页面类似  public class Stu\_info extends AppCompatActivity {   @Override  protected void onCreate(Bundle savedInstanceState) {  super.onCreate(savedInstanceState);  setContentView(R.layout.*activity\_stu\_info*);  //添加学生  Button stu\_y = (Button) findViewById(R.id.*stu\_y*);  stu\_y.setOnClickListener(new View.OnClickListener() {  @Override  public void onClick(View v) {  EditText sn = findViewById(R.id.*sname*);  EditText si = findViewById(R.id.*sid*);  String sname = sn.getText().toString();  String sid = si.getText().toString();  Student stu = new Student();  stu.setSname(sname);  stu.setSid(sid);  stu.save();  Toast.*makeText*(getApplicationContext(), "添加成功", Toast.*LENGTH\_SHORT*).show();  }  });  //跳转  TextView to\_d = findViewById(R.id.*stu\_d*);  to\_d.setOnClickListener(new View.OnClickListener() {  @Override  public void onClick(View v) {  Intent intent = new Intent(Stu\_info.this, Stu\_delete.class);  startActivity(intent);  }  });  TextView to\_up = findViewById(R.id.*stu\_u*);  to\_up.setOnClickListener(new View.OnClickListener() {  @Override  public void onClick(View v) {  Intent intent = new Intent(Stu\_info.this, Stu\_update.class);  startActivity(intent);  }  });  TextView to\_see = findViewById(R.id.*stu\_s*);  to\_see.setOnClickListener(new View.OnClickListener() {  @Override  public void onClick(View v) {  Intent intent = new Intent(Stu\_info.this, Stu\_see.class);  startActivity(intent);  }  });  } }  布局代码：  <?xml version="1.0" encoding="utf-8"?> <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  android:orientation="vertical"  android:background="@drawable/login1"  android:layout\_width="match\_parent"  android:layout\_height="match\_parent">  <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  android:layout\_width="match\_parent"  android:layout\_height="450dp"  android:orientation="vertical">  <TextView  android:layout\_width="wrap\_content"  android:layout\_height="wrap\_content"  android:text="学生新增"  android:layout\_gravity="center"  android:layout\_marginTop="85dp"  android:textColor="#ffffff"  android:textSize="30sp"/>   <EditText  android:id="@+id/sname"  android:layout\_width="200dp"  android:layout\_height="50dp"  android:singleLine="true"  android:layout\_gravity="center"  android:layout\_marginTop="50dp"  android:layout\_marginLeft="10dp"  android:textColor="#ffffff"  android:hint="请输入学生姓名"  android:textColorHint="#f0f0f0"  android:background="#000000"/>  <EditText  android:id="@+id/sid"  android:layout\_width="200dp"  android:layout\_height="50dp"  android:singleLine="true"  android:layout\_gravity="center"  android:layout\_marginTop="10dp"  android:layout\_marginLeft="10dp"  android:textColor="#ffffff"  android:hint="请输入学生学号"  android:textColorHint="#f0f0f0"  android:background="#000000"/>   <Button  android:id="@+id/stu\_y"  android:layout\_width="200dp"  android:layout\_height="50dp"  android:layout\_marginLeft="30dp"  android:layout\_marginRight="20dp"  android:layout\_marginTop="15dp"  android:layout\_gravity="center"  android:background="#009393"  android:text="确认"  android:textColor="#ffffff"  android:textSize="20sp"/>   </LinearLayout>   <LinearLayout  android:layout\_width="match\_parent"  android:layout\_height="match\_parent"  android:orientation="horizontal">  <TextView  android:id="@+id/stu\_add"  android:layout\_width="wrap\_content"  android:layout\_weight="1"  android:layout\_height="match\_parent"  android:gravity="center"  android:padding="20dp"  android:background="#000000"  android:textColor="#ffffff"  android:textSize="20sp"  android:text="添加"  />  <View  android:layout\_width="1px"  android:layout\_height="match\_parent"  android:background="#000000"  />  <TextView  android:id="@+id/stu\_d"  android:layout\_width="wrap\_content"  android:layout\_weight="1"  android:layout\_height="match\_parent"  android:gravity="center"  android:padding="20dp"  android:background="#009393"  android:textColor="#ffffff"  android:textSize="20sp"  android:text="删除"  />  <View  android:layout\_width="1px"  android:layout\_height="match\_parent"  android:background="#000000"  />  <TextView  android:id="@+id/stu\_u"  android:layout\_width="wrap\_content"  android:layout\_weight="1"  android:layout\_height="match\_parent"  android:gravity="center"  android:padding="20dp"  android:background="#009393"  android:textColor="#ffffff"  android:textSize="20sp"  android:text="修改"  />  <View  android:layout\_width="1px"  android:layout\_height="match\_parent"  android:background="#000000"  />  <TextView  android:id="@+id/stu\_s"  android:layout\_width="wrap\_content"  android:layout\_height="match\_parent"  android:layout\_weight="1"  android:gravity="center"  android:background="#009393"  android:padding="20dp"  android:textColor="#ffffff"  android:textSize="20sp"  android:text="浏览"  />  </LinearLayout>  </LinearLayout>  学生列表代码及其配置文件  public class StuAdapter extends ArrayAdapter<Student> {   private int resourceId;   public StuAdapter(@NonNull Context context, int resourceId, @NonNull List<Student> objects) {  super(context, resourceId, objects);  this.resourceId = resourceId;  }  public View getView(int position, View convertView, ViewGroup parent){  Student stu = getItem(position);  View view;  ViewHolder viewHolder;  if(convertView == null){  view = LayoutInflater.*from*(getContext()).inflate(resourceId,parent,false);  viewHolder = new ViewHolder();  viewHolder.Stu\_name = (TextView) view.findViewById(R.id.*stuname*);  viewHolder.Stu\_id = (TextView) view.findViewById(R.id.*stuid*);  view.setTag(viewHolder);  }  else{  view = convertView;  viewHolder = (ViewHolder) view.getTag();  }  viewHolder.Stu\_name.setText(stu.getSname());  viewHolder.Stu\_id.setText(stu.getSid());  return view;  }  class ViewHolder{  TextView Stu\_name;  TextView Stu\_id;  } }  **布局文件：**  <?xml version="1.0" encoding="utf-8"?> <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  android:orientation="horizontal"  android:background="@drawable/info1"  android:layout\_width="match\_parent"  android:layout\_height="50dp">    <TextView  android:id="@+id/stuname"  android:layout\_width="200dp"  android:layout\_height="50dp"  android:textSize="20dp"  android:textColor="#000000" />  <TextView  android:id="@+id/stuid"  android:layout\_width="200dp"  android:layout\_height="50dp"  android:textSize="20dp"  android:textColor="#000000" />  <View  android:layout\_width="match\_parent"  android:layout\_height="1px"  android:background="#000000"  />  </LinearLayout>  学生成绩页面：  public class StuDetail extends AppCompatActivity {  public String sname;  @Override  protected void onCreate(Bundle savedInstanceState) {  super.onCreate(savedInstanceState);  setContentView(R.layout.*activity\_stu\_detail*);  Intent intent = getIntent();  sname = intent.getStringExtra("idn");  List<Course> coo = DataSupport.*findAll*(Course.class);  List<Course> co = new ArrayList<>();  for(int i = 0;i<coo.size();i++){  if(sname.equals(coo.get(i).getSname())){  co.add(coo.get(i));  }  }  CourseAdapter adapter = new CourseAdapter(StuDetail.this,R.layout.*activity\_course\_adapter*,co);  ListView listView = findViewById(R.id.*clist*);  listView.setAdapter(adapter);  //增加成绩  Button y = findViewById(R.id.*add\_cy*);  y.setOnClickListener(new View.OnClickListener() {  @Override  public void onClick(View v) {  EditText add\_cname = findViewById(R.id.*add\_cname*);  EditText add\_cmark = findViewById(R.id.*add\_cmark*);  String cname = add\_cname.getText().toString();  String cmark = add\_cmark.getText().toString();  Course co = new Course();  co.setSname(sname);  co.setCname(cname);  co.setCmark(cmark);  co.save();  Toast.*makeText*(getApplicationContext(), "添加成功", Toast.*LENGTH\_SHORT*).show();  }  });  //删除成绩  Button dy = findViewById(R.id.*d\_cy*);  dy.setOnClickListener(new View.OnClickListener() {  @Override  public void onClick(View v) {  EditText add\_cname = findViewById(R.id.*d\_cname*);  String cname = add\_cname.getText().toString();  DataSupport.*deleteAll*(Course.class,"cname = ? and sname = ?",cname,sname);  Toast.*makeText*(getApplicationContext(), "删除成功", Toast.*LENGTH\_SHORT*).show();  }  });  //更新成绩  Button up\_y = findViewById(R.id.*up\_cy*);  up\_y.setOnClickListener(new View.OnClickListener() {  @Override  public void onClick(View v) {  EditText add\_cname = findViewById(R.id.*up\_cname*);  EditText add\_cmark = findViewById(R.id.*up\_cmark*);  String cname = add\_cname.getText().toString();  String cmark = add\_cmark.getText().toString();  Course co = new Course();  co.setSname(sname);  co.setCname(cname);  co.setCmark(cmark);  co.updateAll("cname = ? and sname = ?",cname,sname);  Toast.*makeText*(getApplicationContext(), "更新成功", Toast.*LENGTH\_SHORT*).show();  }  });  }  }  布局文件：  <?xml version="1.0" encoding="utf-8"?> <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  android:orientation="vertical"  android:background="@drawable/course1"  android:layout\_width="match\_parent"  android:layout\_height="match\_parent">    <ListView  android:id="@+id/clist"  android:layout\_width="match\_parent"  android:layout\_height="450dp"  />  <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  android:orientation="horizontal"  android:layout\_width="match\_parent"  android:layout\_height="match\_parent">  <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  android:orientation="vertical"  android:layout\_width="140dp"  android:layout\_height="match\_parent">  <EditText  android:id="@+id/add\_cname"  android:layout\_width="140dp"  android:layout\_height="30dp"  android:singleLine="true"  android:layout\_gravity="center"  android:layout\_marginTop="10dp"  android:textColor="#ffffff"  android:hint="请输入课程名"  android:textColorHint="#f0f0f0"  android:background="#000000"/>  <EditText  android:id="@+id/add\_cmark"  android:layout\_width="140dp"  android:layout\_height="30dp"  android:singleLine="true"  android:layout\_gravity="center"  android:layout\_marginTop="5dp"  android:textColor="#ffffff"  android:hint="请输入课程成绩"  android:textColorHint="#f0f0f0"  android:background="#000000"/>  <Button  android:id="@+id/add\_cy"  android:layout\_width="120dp"  android:layout\_height="30dp"  android:layout\_gravity="center"  android:background="#009393"  android:text="增加"  android:textColor="#ffffff"  android:textSize="20sp"/>  </LinearLayout>  <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  android:orientation="vertical"  android:layout\_width="120dp"  android:layout\_height="match\_parent">  <EditText  android:id="@+id/d\_cname"  android:layout\_width="120dp"  android:layout\_height="30dp"  android:singleLine="true"  android:layout\_gravity="center"  android:layout\_marginTop="10dp"  android:textColor="#ffffff"  android:hint="请输入课程名"  android:textColorHint="#f0f0f0"  android:background="#000000"/>   <Button  android:id="@+id/d\_cy"  android:layout\_width="120dp"  android:layout\_height="30dp"  android:layout\_gravity="center"  android:layout\_marginTop="35dp"  android:background="#009393"  android:text="删除"  android:textColor="#ffffff"  android:textSize="20sp"/>  </LinearLayout>  <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  android:orientation="vertical"  android:layout\_width="120dp"  android:layout\_height="match\_parent">  <EditText  android:id="@+id/up\_cname"  android:layout\_width="100dp"  android:layout\_height="30dp"  android:singleLine="true"  android:layout\_gravity="center"  android:layout\_marginTop="10dp"  android:textColor="#ffffff"  android:hint="课程名"  android:textColorHint="#f0f0f0"  android:background="#000000"/>  <EditText  android:id="@+id/up\_cmark"  android:layout\_width="100dp"  android:layout\_height="30dp"  android:singleLine="true"  android:layout\_gravity="center"  android:layout\_marginTop="5dp"  android:textColor="#ffffff"  android:hint="更新成绩"  android:textColorHint="#f0f0f0"  android:background="#000000"/>  <Button  android:id="@+id/up\_cy"  android:layout\_width="100dp"  android:layout\_height="30dp"  android:layout\_gravity="center"  android:background="#009393"  android:text="更新"  android:textColor="#ffffff"  android:textSize="20sp"/>  </LinearLayout>  </LinearLayout> </LinearLayout>  课程信息页面：  public class KeDetail extends AppCompatActivity {   @Override  protected void onCreate(Bundle savedInstanceState) {  super.onCreate(savedInstanceState);  setContentView(R.layout.*activity\_ke\_detail*);  TextView t1 = findViewById(R.id.*t1*);  t1.setText("课程名：Math 教师：唐雷雨");  TextView t2 = findViewById(R.id.*t2*);  t2.setText("课程名：Android 教师：Feng");  TextView t3 = findViewById(R.id.*t3*);  t3.setText("课程名：OS 教师：Zhang");  Button re\_h = (Button) findViewById(R.id.*re\_h*);  re\_h.setOnClickListener(new View.OnClickListener() {  @Override  public void onClick(View v) {  finish();  }  });  } } | | | | | |
| **布局文件：**  <?xml version="1.0" encoding="utf-8"?> <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  android:orientation="vertical"  android:background="@drawable/info1"  android:layout\_width="match\_parent"  android:layout\_height="match\_parent">   <TextView  android:id="@+id/t1"  android:layout\_width="match\_parent"   android:layout\_height="100dp"  android:gravity="center"  android:padding="20dp"  android:textColor="#ffffff"  android:textSize="20sp"  android:text=""  />  <TextView  android:id="@+id/t2"  android:layout\_width="match\_parent"  android:layout\_height="100dp"  android:gravity="center"  android:padding="20dp"  android:textColor="#ffffff"  android:textSize="20sp"  android:text=""  />  <TextView  android:id="@+id/t3"  android:layout\_width="match\_parent"  android:layout\_height="100dp"  android:gravity="center"  android:padding="20dp"  android:textColor="#ffffff"  android:textSize="20sp"  android:text=""  />  <Button  android:id="@+id/re\_h"  android:layout\_width="200dp"  android:layout\_height="80dp"  android:layout\_marginTop="50dp"  android:background="#009393"  android:text="返回主页面"  android:textSize="30dp"  android:textColor="#000000"  android:layout\_gravity="center"/> </LinearLayout>  **开始页面：**  public class MainActivity extends AppCompatActivity {   @Override  protected void onCreate(Bundle savedInstanceState) {  super.onCreate(savedInstanceState);  setContentView(R.layout.*activity\_main*);  Button creatDatabase = (Button) findViewById(R.id.*login*);  creatDatabase.setOnClickListener(new View.OnClickListener() {  @Override  public void onClick(View v) {  Connector.*getDatabase*();  Intent intent = new Intent(MainActivity.this, Login.class);  startActivity(intent);  }  });  } }  **布局文件：**  <?xml version="1.0" encoding="utf-8"?> <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  android:orientation="vertical"  android:layout\_width="match\_parent"  android:layout\_height="match\_parent"  android:background="@android:color/holo\_green\_dark"  >  <Button  android:id="@+id/login"  android:layout\_width="match\_parent"  android:layout\_height="wrap\_content"  android:layout\_marginTop="200dp"  android:background="@android:color/background\_dark"  android:text="start"  android:textSize="60dp"  android:textColor="@android:color/holo\_red\_dark"  /> </LinearLayout> | | | | | |