数据库插入与查找数据

SQLiteDataBase中的方法

insert(..)

query(..)

delete(..)

update(..)

Insert与Query方法

插入

long insert( String table ,

String nullColumnHack ,

ContentValues values)

查询

Cursor query( String table ,

String[] columns,

String selection,

String[] selectionArgs,

String groupBy,

String having,

String orderBy,

String limit)

Delete与Update方法

删除

int delete(String table,

String whereClause)

修改

int update(String table,

ContentValues,

String whereClause,

String[] whereArgs)

错误总结：如果在EditText中调出系统软键盘，或者切换横屏竖屏时等等，都会重新调用MainActivity的生命周期，再次执行onCreate方法。

根据网上所说仍然不能解决问题，即每次调出软键盘填写EditView仍然都会执行了onCreate方法？。。。。

activity\_main.xml

*<?***xml version="1.0" encoding="utf-8"***?>*<**LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"**>  
  
 <**LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="vertical"  
 android:layout\_marginTop="20dp"**>  
 <**ImageView  
 android:layout\_width="110dp"  
 android:layout\_height="110dp"  
 android:src="@drawable/hdu"  
 android:layout\_gravity="center\_horizontal"**/>  
  
 <**TextView  
 android:layout\_marginTop="10dp"  
 android:id="@+id/textView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_gravity="center\_horizontal"  
 android:gravity="center\_horizontal"  
 android:text="HDU学生成绩管理"  
 android:textColor="#F00"  
 android:textSize="30dp"  
 android:textStyle="bold"** />  
  
 </**LinearLayout**>  
  
 <**LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="horizontal"  
 android:layout\_marginTop="10dp"**>  
  
 <**TextView  
 android:id="@+id/textView1"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:text="学生姓名："  
 android:textSize="20dp"  
 android:gravity="center"**/>  
  
 <**EditText  
 android:id="@+id/etName"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:ems="10"  
 android:hint="请输入学生姓名"** />  
  
 </**LinearLayout**>  
  
 <**LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="horizontal"**>  
  
 <**TextView  
 android:id="@+id/textView2"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:text="学生年龄："  
 android:textSize="20dp"  
 android:gravity="center"**/>  
  
 <**EditText  
 android:id="@+id/etAge"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:ems="10"  
 android:hint="请输入学生年龄"** />  
  
 </**LinearLayout**>  
  
 <**LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="horizontal"**>  
  
 <**TextView  
 android:id="@+id/textView3"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:text="学生成绩："  
 android:textSize="20dp"  
 android:gravity="center"**/>  
  
 <**EditText  
 android:id="@+id/etScore"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:ems="10"  
 android:hint="请输入学生成绩"** />  
  
 </**LinearLayout**>  
  
 <**LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="horizontal"**>  
  
 <**Button  
 android:id="@+id/btnAdd"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="10dp"  
 android:layout\_marginTop="10dp"  
 android:onClick="operator"  
 android:text="添加"** />  
  
 <**Button  
 android:id="@+id/btnQuery"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="10dp"  
 android:layout\_marginTop="10dp"  
 android:onClick="operator"  
 android:text="查询"** />  
  
 <**Button  
 android:id="@+id/btnUpdate"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="10dp"  
 android:layout\_marginTop="10dp"  
 android:onClick="operator"  
 android:text="修改"** />  
  
 <**Button  
 android:id="@+id/btnDelete"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="10dp"  
 android:layout\_marginTop="10dp"  
 android:onClick="operator"  
 android:text="删除"** />  
  
 </**LinearLayout**>  
 <**LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="horizontal"**>  
  
 <**Button  
 android:id="@+id/btnFirst"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="10dp"  
 android:layout\_marginTop="10dp"  
 android:onClick="browser"  
 android:text="第一条"** />  
  
 <**Button  
 android:id="@+id/btnPrev"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="10dp"  
 android:layout\_marginTop="10dp"  
 android:onClick="browser"  
 android:text="上一条"** />  
  
 <**Button  
 android:id="@+id/btnNext"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="10dp"  
 android:layout\_marginTop="10dp"  
 android:onClick="browser"  
 android:text="下一条"** />  
  
 <**Button  
 android:id="@+id/btnLast"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="10dp"  
 android:layout\_marginTop="10dp"  
 android:onClick="browser"  
 android:text="最后"** />  
  
 </**LinearLayout**>  
  
 <**LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="vertical"**>  
  
 <**ListView  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:id="@+id/lstStudent"** />  
  
 </**LinearLayout**>  
  
</**LinearLayout**>

student\_item.xml

*<?***xml version="1.0" encoding="utf-8"***?>*<**LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="horizontal"**>  
  
 <**TextView  
 android:id="@+id/tvName"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:text="name"  
 android:textAppearance="?android:attr/textAppearanceLarge"  
 android:gravity="center"**/>  
  
 <**TextView  
 android:id="@+id/tvAge"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:text="age"  
 android:textAppearance="?android:attr/textAppearanceLarge"  
 android:gravity="center"**/>  
  
 <**TextView  
 android:id="@+id/tvScore"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:text="score"  
 android:textAppearance="?android:attr/textAppearanceLarge"  
 android:gravity="center"**/>  
</**LinearLayout**>

dialog\_view.xml

*<?***xml version="1.0" encoding="utf-8"***?>*<**LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"**>  
  
 <**TextView  
 android:id="@+id/textView4"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="输入要查询的学生id："  
 android:textAppearance="?android:attr/textAppearanceLarge"**/>  
  
 <**EditText  
 android:id="@+id/etFindStudentId"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:inputType="textPersonName"  
 android:text=""  
 android:textAppearance="?android:attr/textAppearanceLarge"**/>  
</**LinearLayout**>

MyOpenHelper.java

**package** com.hjs.databasedemo2.db;  
  
**import** android.content.Context;  
**import** android.database.sqlite.SQLiteDatabase;  
**import** android.database.sqlite.SQLiteOpenHelper;  
  
**public class** MyOpenHelper **extends** SQLiteOpenHelper {  
 **private static final int *VERSION***=2;  
 **public** MyOpenHelper(Context context) {  
 **super**(context, **"student.db"**, **null**, ***VERSION***);  
 }  
  
 @Override  
 **public void** onCreate(SQLiteDatabase db) {  
 String sql = **"create table Student(\_id integer primary key autoincrement,"**+  
 **"name,"**+  
 **"score)"**;  
 db.execSQL(sql);  
 }  
  
 @Override  
 **public void** onUpgrade(SQLiteDatabase db, **int** oldVersion, **int** newVersion) {  
 **if** (newVersion==2 && oldVersion==1){  
 *//更改Student表结构  
 //1.删除表* String sql = **"drop table if exists Student"**;*//为了防止版本更新时Student表不能存在导致删除出错。所以在sql语句里加个判断* db.execSQL(sql);  
 *//2.创建表* String sql2 = **"create table Student(\_id integer primary key autoincrement,"**+  
 **"name,"**+  
 **"age,"**+  
 **"score)"**;  
 db.execSQL(sql2);  
  
 }  
  
 }  
}

MainActivity.java

**package** com.hjs.databasedemo2;  
  
**import** android.app.AlertDialog;  
**import** android.app.Dialog;  
**import** android.content.ContentValues;  
**import** android.content.DialogInterface;  
**import** android.database.Cursor;  
**import** android.database.sqlite.SQLiteDatabase;  
**import** android.support.v7.app.AppCompatActivity;  
**import** android.os.Bundle;  
**import** android.util.Log;  
**import** android.view.LayoutInflater;  
**import** android.view.View;  
**import** android.view.ViewGroup;  
**import** android.widget.CursorAdapter;  
**import** android.widget.EditText;  
**import** android.widget.ListView;  
**import** android.widget.SimpleCursorAdapter;  
**import** android.widget.TextView;  
**import** android.widget.Toast;  
  
**import** com.hjs.databasedemo2.db.MyOpenHelper;  
  
  
**public class** MainActivity **extends** AppCompatActivity {  
 **private** EditText **etName**,**etAge**,**etScore**;  
 **private** ListView **lstStudent**;  
  
 **private** MyOpenHelper **helper**;  
 **private** Cursor **cursor**;  
  
 **private** Dialog **dlg**;  
 **private** String **id**=**"-1"**;*//查找到的学生id，设默认初值* @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 Log.*i*(**"TEST"**,**"onCreate方法被调用了"**);  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
  
 **helper**=**new** MyOpenHelper(**this**);  
 **cursor**=**helper**.getReadableDatabase().query(**"Student"**,**null**,**null**,**null**,**null**,**null**,**null**);  
  
 init();  
  
 displayAllStudent();  
  
 createDialog();  
 }  
  
  
 **private void** displayAllStudent(){  
 SQLiteDatabase db = **helper**.getReadableDatabase();  
 **cursor** = db.query(**"Student"**,**null**,**null**,**null**,**null**,**null**,**null**);  
 *//此时cursor指示着结果集的最后一条记录* SimpleCursorAdapter adapter = **new** SimpleCursorAdapter(  
 **this**,  
 R.layout.***student\_item***,  
 **cursor**,  
 **new** String[]{**"name"**,**"age"**,**"score"**},  
 **new int**[]{R.id.***tvName***,R.id.***tvAge***,R.id.***tvScore***}  
 );  
 **lstStudent**.setAdapter(adapter);  
 db.close();  
 System.***out***.println(**"被执行到了"**);  
 }  
  
 *//关联控件* **private void** init() {  
 **etName**=(EditText)findViewById(R.id.***etName***);  
 **etAge**=(EditText)findViewById(R.id.***etAge***);  
 **etScore**=(EditText)findViewById(R.id.***etScore***);  
 **lstStudent**=(ListView)findViewById(R.id.***lstStudent***);  
 }  
  
 *//操作数据库* **public void** operator(View view){  
 **switch** (view.getId()){  
 **case** R.id.***btnAdd***:  
 insertStudent();  
 **break**;  
 **case** R.id.***btnQuery***:  
 queryStudent();  
 **break**;  
 **case** R.id.***btnUpdate***:  
 updateStudent();  
 **break**;  
 **case** R.id.***btnDelete***:  
 deleteStudent();  
 **break**;  
 }  
 }  
  
  
 **private void** deleteStudent() {  
 *//游标cursor所指向的数据* String id = **cursor**.getString(**cursor**.getColumnIndex(**"\_id"**));  
 System.***out***.println(id);  
 SQLiteDatabase db = **helper**.getReadableDatabase();  
 *//delete方法返回影响的行数* **int** line = db.delete(**"Student"**,  
 **"\_id=?"**,  
 **new** String[]{id});  
 **if** (line>0){  
 Toast.*makeText*(**this**,**"数据删除成功"**,Toast.***LENGTH\_LONG***).show();  
 }  
 db.close();  
 displayAllStudent();  
 }  
  
 **private void** updateStudent() {  
 *//游标cursor所指向的数据* **id** = **cursor**.getString(**cursor**.getColumnIndex(**"\_id"**));  
 System.***out***.println(**id**);  
 SQLiteDatabase db = **helper**.getReadableDatabase();  
 *//修改的列及新值* ContentValues values = **new** ContentValues();  
 values.put(**"name"**, **etName**.getText().toString().trim());  
 values.put(**"age"**, **etAge**.getText().toString().trim());  
 values.put(**"score"**, **etScore**.getText().toString().trim());  
  
 *//update Student set name = '', age = '', score = '' where 行条件* **int** line = db.update(**"Student"**, values, **"\_id=?"**, **new** String[]{**id**});  
 **if** (line > 0) {  
 Toast.*makeText*(**this**, **"数据已被修改"**, Toast.***LENGTH\_LONG***).show();  
 }  
  
 db.close();  
  
 displayAllStudent();  
 System.***out***.println(**id**);  
 }  
  
 *//浏览数据* **public void** browser(View view){  
 **switch** (view.getId()){  
 **case** R.id.***btnFirst***:  
 first();  
 **break**;  
 **case** R.id.***btnPrev***:  
 prev();  
 **break**;  
 **case** R.id.***btnNext***:  
 next();  
 **break**;  
 **case** R.id.***btnLast***:  
 last();  
 **break**;  
 }  
 }  
  
 **private void** last() {  
 **if** (**cursor**.moveToLast()){  
 display();  
 }  
 }  
  
 **private void** next() {  
 **if** (**cursor**.moveToNext()){  
 display();  
 }  
 }  
  
 **private void** prev() {  
 **if** (**cursor**.moveToPrevious()){  
 display();  
 }  
 }  
  
 **private void** first() {  
 **if** (**cursor**.moveToFirst()){*//游标移动到第一条，是否存在？  
 //显示* display();  
 }  
 }  
  
 **private void** display() {  
 String name = **cursor**.getString(**cursor**.getColumnIndex(**"name"**));  
 String age = **cursor**.getString(**cursor**.getColumnIndex(**"age"**));  
 String score = **cursor**.getString(**cursor**.getColumnIndex(**"score"**));  
  
 **etName**.setText(name);  
 **etAge**.setText(age);  
 **etScore**.setText(score);  
 }  
 **private void** createDialog(){  
 *//解析* View view = LayoutInflater.*from*(**this**).inflate(R.layout.***dialog\_view***,**null**);  
 **final** EditText etFindStudentId = (EditText)view.findViewById(R.id.***etFindStudentId***);  
  
 **dlg** = **new** AlertDialog.Builder(**this**)  
 .setView(view)  
 .setPositiveButton(**"确定"**, **new** DialogInterface.OnClickListener() {  
 @Override  
 **public void** onClick(DialogInterface dialog, **int** which) {  
 *//得到输入的id* **id** = etFindStudentId.getText().toString().trim();  
 *//查找* findStudentById(**id**);  
 }  
 })  
 .setNegativeButton(**"取消"**, **new** DialogInterface.OnClickListener() {  
 @Override  
 **public void** onClick(DialogInterface dialog, **int** which) {  
 **id**=**"-1"**;  
 }  
 })  
 .create();  
  
 }  
  
 **private void** findStudentById(String id) {  
 **cursor** = **helper**.getReadableDatabase().query(  
 **"Student"**,  
 **null**,  
 **"\_id=?"**,  
 **new** String[]{id},  
 **null**,  
 **null**,  
 **null**);  
  
 **if**(**cursor**.moveToFirst()){  
 *//找到  
 //显示在EditText* String name = **cursor**.getString(**cursor**.getColumnIndex(**"name"**));  
 String age = **cursor**.getString(**cursor**.getColumnIndex(**"age"**));  
 String score = **cursor**.getString(**cursor**.getColumnIndex(**"score"**));  
  
 **etName**.setText(name);  
 **etAge**.setText(age);  
 **etScore**.setText(score);  
 }**else** {  
 Toast.*makeText*(**this**,**"没有符合条件的学生数据......"**,Toast.***LENGTH\_LONG***).show();  
 }  
 }  
  
 **private void** queryStudent() {  
 *//对话框输入学生id  
 //查找  
 //显示在EditText* **dlg**.show();  
  
  
 */\*SQLiteDatabase db = helper.getReadableDatabase();\*/  
 //select 列名,列名...from 表名 where \_id=? or name=? group by 列名 having...order by ...  
 //参数1：表名  
 //参数2：选择的列的列名(String[]) null相当于\*  
 //参数3：where条件后面的语句  
 //参数4：where条件的参数值 ? String[]类型  
 //参数5：group by 后的语句  
 //参数6：having 后面的语句  
 //参数7：order by 排序  
 /\*Cursor cur = db.query(  
 "Student",  
 null,  
 "\_id=?",  
 new String[]{"1"},  
 null,null,  
 null);\*/  
  
  
  
/\* 方式1：创建自己的适配器  
 //CursorAdapter的构造函数：参数1：上下文 参数2：对应的游标  
 CursorAdapter adapter = new CursorAdapter(this,cur) {  
  
 \*//\*\*  
 \* 希望显示的每一项的View布局  
 \** ***@param context*** *\** ***@param cursor*** *\** ***@param parent*** *\** ***@return*** *\*//\*  
 @Override  
 public View newView(Context context, Cursor cursor, ViewGroup parent) {  
 View view = LayoutInflater.from(MainActivity.this).inflate(R.layout.student\_item,null);  
 return view;  
 }  
  
 \*//\*\*  
 \* 绑定返回视图和数据  
 \** ***@param view*** *返回的view  
 \** ***@param context*** *上下文  
 \** ***@param cursor*** *cursor结果集中，用户想要显示的某一项，可以理解cursor为指向当前行数据的指针  
 \*//\*  
 @Override  
 public void bindView(View view, Context context, Cursor cursor) {  
 TextView tvName = view.findViewById(R.id.tvName);  
 TextView tvAge = view.findViewById(R.id.tvAge);  
 TextView tvScore = view.findViewById(R.id.tvScore);  
  
 //通过游标指针得到指定的项的值  
 int columnIndex1 = cursor.getColumnIndex("name");  
 String name = cursor.getString(columnIndex1);//列索引  
  
 int columnIndex2 = cursor.getColumnIndex("age");  
 String age = cursor.getString(columnIndex2);//列索引  
  
 int columnIndex3 = cursor.getColumnIndex("score");  
 String score = cursor.getString(columnIndex3);//列索引  
  
 //设置显示  
 tvName.setText(name);  
 tvAge.setText(age);  
 tvScore.setText(score);  
 }  
 };\*/  
  
 /\* //方式2：调用系统设置好的适配器（需腰自己写view的布局文件）  
 SimpleCursorAdapter adapter = new SimpleCursorAdapter(  
 this,  
 R.layout.student\_item,  
 cur,  
 new String[]{"name","age","score"},  
 new int[]{R.id.tvName,R.id.tvAge,R.id.tvScore});  
 lstStudent.setAdapter(adapter);\*/* }  
  
 **private void** insertStudent() {  
 String stuName = **etName**.getText().toString().trim();  
 String stuScore = **etScore**.getText().toString().trim();  
 String stuAge = **etAge**.getText().toString().trim();  
 SQLiteDatabase db = **helper**.getReadableDatabase();  
 *//插入数据  
 //参数1：表名 参数2：希望插入NULL值的列名 参数3：ContentValues对象--实质Map（键值对：键：列名）* ContentValues values = **new** ContentValues();  
 values.put(**"name"**,stuName);  
 values.put(**"score"**,stuScore);  
 values.put(**"age"**,stuAge);  
 **long** rowId = db.insert(**"Student"**,**null**,values);*//返回数据库的行id，  
 // 插入不成功：返回-1（eg：插入不存在的列的属性值）  
 // 插入成功：返回非-1的值* **if** (rowId!=-1){  
 Toast.*makeText*(**this**,**"学生数据插入成功！"**,Toast.***LENGTH\_LONG***).show();  
 }  
  
 db.close();  
 displayAllStudent();  
 }  
}

AndroidManifest.xml

*<?***xml version="1.0" encoding="utf-8"***?>*<**manifest xmlns:android="http://schemas.android.com/apk/res/android"  
 package="com.hjs.databasedemo2"**>  
  
 <**uses-sdk android:maxSdkVersion="16"**/>  
 <**application  
 android:allowBackup="true"  
 android:icon="@mipmap/ic\_launcher"  
 android:label="@string/app\_name"  
 android:roundIcon="@mipmap/ic\_launcher\_round"  
 android:supportsRtl="true"  
 android:theme="@style/AppTheme"**>  
 <**activity android:name=".MainActivity"  
 android:configChanges="keyboard|keyboardHidden|orientation|screenSize"**>  
 <**intent-filter**>  
 <**action android:name="android.intent.action.MAIN"** />  
  
 <**category android:name="android.intent.category.LAUNCHER"** />  
 </**intent-filter**>  
 </**activity**>  
 </**application**>  
  
</**manifest**>