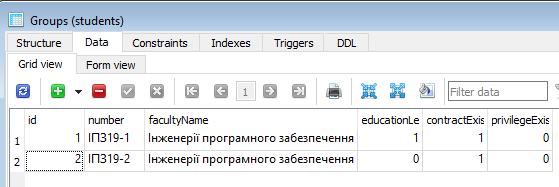
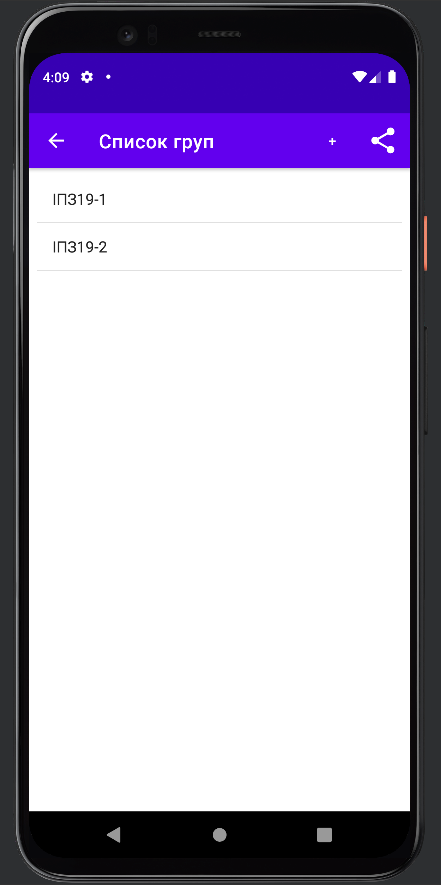
ЛАБОРАТОРНА РОБОТА №6

**Тема:** робота із базою даних SQLite





AddStudentActivity

package com.example.students;  
  
import androidx.appcompat.app.AppCompatActivity;  
import androidx.core.app.NavUtils;  
  
import android.content.ContentValues;  
import android.content.Intent;  
import android.database.Cursor;  
import android.database.sqlite.SQLiteDatabase;  
import android.database.sqlite.SQLiteException;  
import android.database.sqlite.SQLiteOpenHelper;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.EditText;  
import android.widget.TextView;  
import android.widget.Toast;  
  
public class AddStudentActivity extends AppCompatActivity {  
  
 public static final String *GROUP\_NUMBER* = "groupnumber";  
 private String grpNumber;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_add\_student*);  
  
 Bundle arguments = getIntent().getExtras();  
 grpNumber = arguments.get(*GROUP\_NUMBER*).toString();  
 StudentsGroup group = null;  
  
 SQLiteOpenHelper sqLiteOpenHelper = new StudentsDatabaseHelper(this);  
 try {  
 SQLiteDatabase db = sqLiteOpenHelper.getReadableDatabase();  
 Cursor cursor = db.query("groups",  
 new String[] {"number", "facultyName", "educationLevel",  
 "contractExistsFlg", "privilegeExistsFlg", "id"},  
 "id=?", new String[] {grpNumber},  
 null, null, null);  
  
 if(cursor.moveToFirst()){  
 group = new StudentsGroup(  
 cursor.getInt(5),  
 cursor.getString(0),  
 cursor.getString(1),  
 cursor.getInt(2),  
 (cursor.getInt(3) > 0),  
 (cursor.getInt(4) > 0)  
 );  
 }  
 else{  
 Toast toast = Toast.*makeText*(this,  
 "Can't find group with id " + grpNumber,  
 Toast.*LENGTH\_SHORT*);  
 toast.show();  
 }  
  
 cursor.close();  
 db.close();  
 } catch (SQLiteException e){  
 Toast toast = Toast.*makeText*(this,  
 e.getMessage(),  
 Toast.*LENGTH\_SHORT*);  
 toast.show();  
 }  
  
 TextView groupName = (TextView) findViewById(R.id.*groupNumberText*);  
 groupName.setText(group.getNumber());  
 }  
  
 public void onAddStudentClick(View view){  
 EditText studentName = (EditText) findViewById(R.id.*studentNameText*);  
  
 SQLiteOpenHelper sqLiteOpenHelper = new StudentsDatabaseHelper(this);  
 try {  
 SQLiteDatabase db = sqLiteOpenHelper.getReadableDatabase();  
 ContentValues contentValues = new ContentValues();  
  
 contentValues.put("name", studentName.getText().toString());  
 contentValues.put("group\_id", grpNumber);  
  
 db.insert("students", null, contentValues);  
 db.close();  
  
 finish();  
 } catch (SQLiteException e){  
 Toast toast = Toast.*makeText*(this,  
 e.getMessage(),  
 Toast.*LENGTH\_SHORT*);  
 toast.show();  
 }  
 }  
}

AddStudentsGroupActivity

package com.example.students;  
  
import androidx.appcompat.app.AppCompatActivity;  
import androidx.core.app.NavUtils;  
  
import android.content.ContentValues;  
import android.database.sqlite.SQLiteDatabase;  
import android.database.sqlite.SQLiteException;  
import android.database.sqlite.SQLiteOpenHelper;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.EditText;  
import android.widget.Toast;  
  
public class AddStudentsGroupActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_add\_students\_group*);  
 }  
  
 public void onGrpAddClick(View view){  
 EditText number = (EditText) findViewById(R.id.*addGroupNumber*);  
 EditText faculty = (EditText) findViewById(R.id.*addFaculty*);  
  
 SQLiteOpenHelper sqLiteOpenHelper = new StudentsDatabaseHelper(this);  
 try {  
 SQLiteDatabase db = sqLiteOpenHelper.getReadableDatabase();  
 ContentValues contentValues = new ContentValues();  
  
 contentValues.put("number", number.getText().toString());  
 contentValues.put("facultyName", faculty.getText().toString());  
 contentValues.put("educationLevel", 0);  
 contentValues.put("contractExistsFlg", 0);  
 contentValues.put("privilegeExistsFlg", 0);  
  
 db.insert("groups", null, contentValues);  
 db.close();  
 NavUtils.*navigateUpFromSameTask*(this);  
 } catch (SQLiteException e){  
 Toast toast = Toast.*makeText*(this,  
 e.getMessage(),  
 Toast.*LENGTH\_SHORT*);  
 toast.show();  
 }  
 }  
}

GroupsListActivity

package com.example.students;  
  
import androidx.annotation.NonNull;  
import androidx.appcompat.app.AppCompatActivity;  
import androidx.appcompat.widget.ShareActionProvider;  
import androidx.core.view.MenuItemCompat;  
  
import android.content.Intent;  
import android.database.Cursor;  
import android.database.sqlite.SQLiteDatabase;  
import android.database.sqlite.SQLiteException;  
import android.database.sqlite.SQLiteOpenHelper;  
import android.os.Bundle;  
import android.view.Menu;  
import android.view.MenuItem;  
import android.view.View;  
import android.widget.AdapterView;  
import android.widget.ArrayAdapter;  
import android.widget.ListView;  
import android.widget.Toast;  
  
import java.util.ArrayList;  
  
public class GroupsListActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.activity\_groups\_list);  
  
 AdapterView.OnItemClickListener listener = new AdapterView.OnItemClickListener(){  
 @Override  
 public void onItemClick(AdapterView<?> adapterView, View view, int i, long l){  
 StudentsGroup group = (StudentsGroup) adapterView.getItemAtPosition(i);  
 Intent intent = new Intent(GroupsListActivity.this,  
 StudentsGroupActivity.class);  
 intent.putExtra(StudentsGroupActivity.GROUP\_NUMBER, group.getId());  
 startActivity(intent);  
 }  
 };  
  
 ListView listView = (ListView) findViewById(R.id.groups\_list);  
 listView.setOnItemClickListener(listener);  
 }  
  
 @Override  
 public void onStart(){  
 super.onStart();  
  
 ListView listView = (ListView) findViewById(R.id.groups\_list);  
 ArrayAdapter<StudentsGroup> adapter = new ArrayAdapter<StudentsGroup>(  
 this, android.R.layout.simple\_list\_item\_1,  
 getDataFromDB()  
 );  
  
 listView.setAdapter(adapter);  
 }  
  
 public void onGrpAddClick(View view){  
 startActivity(  
 new Intent(this, AddStudentsGroupActivity.class)  
 );  
 }  
  
 @Override  
 public boolean onCreateOptionsMenu(Menu menu){  
 getMenuInflater().inflate(R.menu.groups\_menu, menu);  
  
 String text = "";  
 for (StudentsGroup group: StudentsGroup.getGroups()){  
 text += group.getNumber() + "\n";  
 }  
  
 MenuItem menuItem = menu.findItem(R.id.action\_share);  
 ShareActionProvider shareActionProvider = (ShareActionProvider) MenuItemCompat.getActionProvider(menuItem);  
  
 Intent intent = new Intent(Intent.ACTION\_SEND);  
 intent.setType("text/plain");  
 intent.putExtra(Intent.EXTRA\_TEXT, text);  
 shareActionProvider.setShareIntent(intent);  
  
 return super.onCreateOptionsMenu(menu);  
 }  
  
 @Override  
 public boolean onOptionsItemSelected(@NonNull MenuItem item){  
 switch (item.getItemId()){  
 case R.id.action\_add\_group:  
 startActivity(  
 new Intent(this, AddStudentsGroupActivity.class)  
 );  
 default:  
 return super.onOptionsItemSelected(item);  
 }  
 }  
  
 private ArrayList<StudentsGroup> getDataFromDB(){  
 ArrayList<StudentsGroup> groups = new ArrayList<StudentsGroup>();  
  
 SQLiteOpenHelper sqLiteOpenHelper = new StudentsDatabaseHelper(this);  
 try {  
 SQLiteDatabase db = sqLiteOpenHelper.getReadableDatabase();  
 Cursor cursor = db.query("groups",  
 new String[] {"number", "facultyName", "educationLevel",  
 "contractExistsFlg", "privilegeExistsFlg", "id"},  
 null, null, null,  
 null, "number");  
  
 while (cursor.moveToNext()){  
 groups.add(  
 new StudentsGroup(  
 cursor.getInt(5),  
 cursor.getString(0),  
 cursor.getString(1),  
 cursor.getInt(2),  
 (cursor.getInt(3) > 0),  
 (cursor.getInt(4) > 0)  
 )  
 );  
 }  
  
 cursor.close();  
 db.close();  
 } catch (SQLiteException e){  
 Toast toast = Toast.makeText(this,  
 e.getMessage(),  
 Toast.LENGTH\_SHORT);  
 toast.show();  
 }  
  
 return groups;  
 }  
  
}

MainActivity

package com.example.students;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.content.Intent;  
import android.os.Bundle;  
import android.os.Handler;  
import android.view.View;  
import android.widget.Spinner;  
import android.widget.TextView;  
import android.widget.Toast;  
  
import org.w3c.dom.Text;  
  
import java.util.Locale;  
  
public class MainActivity extends AppCompatActivity {  
 @Override  
 protected void onCreate(Bundle savedInstanceState){  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.activity\_main);  
 }  
  
 public void onBtnShowGroupsClick(View view){  
 Intent intent = new Intent(this, GroupsListActivity.class);  
 startActivity(intent);  
 }  
}

Student

package com.example.students;  
  
import java.util.ArrayList;  
import java.util.Arrays;  
  
public class Student {  
 private String name;  
 private String groupNumber;  
  
 public Student(String name, String groupNumber){  
 this.name = name;  
 this.groupNumber = groupNumber;  
 }  
  
 public String getName(){  
 return name;  
 }  
  
 public String getGroupNumber(){  
 return groupNumber;  
 }  
  
 private final static ArrayList<Student> *students* = new ArrayList<Student>(  
 Arrays.*asList*(  
 new Student("Пупкін Вадим", "ІПЗ19-1"),  
 new Student("Пупкін Сергій", "ІПЗ19-1"),  
 new Student("Томазов Олександр", "ІПЗ19-2"),  
 new Student("Пупкін Дмитро", "ІПЗ19-2")  
 )  
 );  
  
 public static ArrayList<Student> getStudents(){  
 return *getStudents*("");  
 }  
  
 public static ArrayList<Student> getStudents(String groupNumber){  
 ArrayList<Student> stList = new ArrayList<>();  
  
 for (Student s : *students*){  
 if(s.getGroupNumber().equals(groupNumber) || (groupNumber == "")){  
 stList.add(s);  
 }  
 }  
  
 return stList;  
 }  
  
 @Override  
 public String toString(){  
 return name;  
 }  
}

StudentActivity

package com.example.students;  
  
import androidx.appcompat.app.AppCompatActivity;  
import androidx.core.app.NavUtils;  
  
import android.content.ContentValues;  
import android.content.Intent;  
import android.database.Cursor;  
import android.database.sqlite.SQLiteDatabase;  
import android.database.sqlite.SQLiteException;  
import android.database.sqlite.SQLiteOpenHelper;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.CheckBox;  
import android.widget.EditText;  
import android.widget.RadioButton;  
import android.widget.TextView;  
import android.widget.Toast;  
  
public class StudentActivity extends AppCompatActivity {  
  
 public static final String GROUP\_NUMBER = "groupnumber";  
 public static final String STUDENT\_NAME = "name";  
  
 private String studentNameStr;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.activity\_student);  
  
 Bundle arguments = getIntent().getExtras();  
 String groupNameStr = arguments.get(GROUP\_NUMBER).toString();  
 studentNameStr = arguments.get(STUDENT\_NAME).toString();  
  
 StudentsGroup group = null;  
  
 SQLiteOpenHelper sqLiteOpenHelper = new StudentsDatabaseHelper(this);  
 try {  
 SQLiteDatabase db = sqLiteOpenHelper.getReadableDatabase();  
 Cursor cursor = db.query("groups",  
 new String[] {"number", "facultyName", "educationLevel",  
 "contractExistsFlg", "privilegeExistsFlg", "id"},  
 "id=?", new String[] {groupNameStr},  
 null, null, null);  
  
 if(cursor.moveToFirst()){  
 group = new StudentsGroup(  
 cursor.getInt(5),  
 cursor.getString(0),  
 cursor.getString(1),  
 cursor.getInt(2),  
 (cursor.getInt(3) > 0),  
 (cursor.getInt(4) > 0)  
 );  
 }  
 else{  
 Toast toast = Toast.makeText(this,  
 "Can't find group with id " + groupNameStr,  
 Toast.LENGTH\_SHORT);  
 toast.show();  
 }  
  
 cursor.close();  
 db.close();  
 } catch (SQLiteException e){  
 Toast toast = Toast.makeText(this,  
 e.getMessage(),  
 Toast.LENGTH\_SHORT);  
 toast.show();  
 }  
  
 EditText groupNameText = (EditText) findViewById(R.id.studentGroupText);  
 groupNameText.setText(group.getNumber());  
  
 EditText studentNameText = (EditText) findViewById(R.id.studentNameText);  
 studentNameText.setText(studentNameStr);  
 }  
  
 public void onOkBtnClick(View view){  
 SQLiteOpenHelper sqLiteOpenHelper = new StudentsDatabaseHelper(this);  
  
 ContentValues contentValues = new ContentValues();  
 contentValues.put("name",  
 ((EditText) findViewById(R.id.studentNameText)).getText().toString());  
  
 try {  
 SQLiteDatabase db = sqLiteOpenHelper.getReadableDatabase();  
 db.update("students",  
 contentValues,  
 "name=?",  
 new String[] { studentNameStr });  
  
 db.close();  
 finish();  
 } catch (SQLiteException e){  
 Toast toast = Toast.makeText(this,  
 e.getMessage(),  
 Toast.LENGTH\_SHORT);  
 toast.show();  
 }  
  
 }  
  
 public void onDelete(View view){  
 SQLiteOpenHelper sqLiteOpenHelper = new StudentsDatabaseHelper(this);  
  
 try {  
 SQLiteDatabase db = sqLiteOpenHelper.getReadableDatabase();  
 db.delete("students",  
 "name=?",  
 new String[] { studentNameStr });  
  
 db.close();  
 finish();  
 } catch (SQLiteException e){  
 Toast toast = Toast.makeText(this,  
 e.getMessage(),  
 Toast.LENGTH\_SHORT);  
 toast.show();  
 }  
 }  
}

StudentDatabaseHelper

package com.example.students;  
  
import android.content.ContentValues;  
import android.content.Context;  
import android.database.sqlite.SQLiteDatabase;  
import android.database.sqlite.SQLiteOpenHelper;  
  
public class StudentsDatabaseHelper extends SQLiteOpenHelper {  
 private static final String *DB\_NAME* = "students";  
 private static final int *DB\_VERSION* = 2;  
  
 public StudentsDatabaseHelper(Context context){  
 super(context, *DB\_NAME*, null, *DB\_VERSION*);  
 }  
  
 @Override  
 public void onCreate(SQLiteDatabase db){  
 String sqlText = "CREATE TABLE Groups (\n" +  
 "id INTEGER PRIMARY KEY AUTOINCREMENT,\n" +  
 "number TEXT(10) NOT NULL,\n" +  
 "facultyName TEXT(100),\n" +  
 "educationLevel INTEGER,\n" +  
 "contractExistsFlg BOOLEAN,\n" +  
 "privilegeExistsFlg BOOLEAN\n"+  
 ");";  
  
 db.execSQL(sqlText);  
 updateSchema(db, 0);  
 populateDB(db);  
 }  
  
 @Override  
 public void onUpgrade(SQLiteDatabase db, int oldV, int newV){  
 updateSchema(db, oldV);  
 }  
  
 private void populateDB(SQLiteDatabase db){  
 populateGroups(db);  
 populateStudents(db);  
 }  
  
 private void populateGroups(SQLiteDatabase db){  
 for (StudentsGroup group : StudentsGroup.*getGroups*()){  
 insertRowToGroup(db, group);  
 }  
 }  
  
 private void populateStudents(SQLiteDatabase db){  
 for (Student student : Student.*getStudents*()){  
 insertRowToStudent(db, student);  
 }  
 }  
  
 private void insertRowToGroup(SQLiteDatabase db, StudentsGroup group){  
 ContentValues contentValues = new ContentValues();  
  
 contentValues.put("number", group.getNumber());  
 contentValues.put("facultyName", group.getFacultyName());  
 contentValues.put("educationLevel", group.getEducationLevel());  
 contentValues.put("contractExistsFlg", group.isContractExistsFlg());  
 contentValues.put("privilegeExistsFlg", group.isPrivilageExistsFlg());  
  
 db.insert("Groups", null, contentValues);  
 }  
  
 private void insertRowToStudent(SQLiteDatabase db, Student student){  
 db.execSQL("INSERT INTO students(name, group\_id)\n" +  
 "SELECT '" + student.getName() + "', id\n" +  
 "FROM groups\n" +  
 "WHERE number='" + student.getGroupNumber() + "'");  
 }  
  
 private void updateSchema(SQLiteDatabase db, int oldV){  
 if(oldV < 2){  
 db.execSQL("CREATE TABLE Students (\n" +  
 "id INTEGER PRIMARY KEY AUTOINCREMENT,\n" +  
 "name TEXT(100) NOT NULL,\n" +  
 "group\_id INTEGER REFERENCES Groups (id) ON DELETE RESTRICT\n" +  
 " ON UPDATE RESTRICT\n" +  
 ");");  
  
 populateStudents(db);  
 }  
 }  
}

StudentGroup

package com.example.students;  
  
import java.util.ArrayList;  
import java.util.Arrays;  
  
public class StudentsGroup {  
 private int id;  
 private String number;  
 private String facultyName;  
 private int educationLevel;  
 private boolean contractExistsFlg;  
 private boolean privilegeExistsFlg;  
  
 public StudentsGroup(int id, String number, String facultyName,  
 int educationLevel, boolean contractExistsFlg, boolean privilegeExistsFlg){  
 this(number, facultyName, educationLevel, contractExistsFlg, privilegeExistsFlg);  
 this.id = id;  
 }  
  
 public StudentsGroup(String number, String facultyName,  
 int educationLevel, boolean contractExistsFlg, boolean privilegeExistsFlg){  
 this.number = number;  
 this.facultyName = facultyName;  
 this.educationLevel = educationLevel;  
 this.contractExistsFlg = contractExistsFlg;  
 this.privilegeExistsFlg = privilegeExistsFlg;  
 }  
  
 public int getId(){  
 return id;  
 }  
  
 public String getNumber(){  
 return number;  
 }  
  
 public String getFacultyName(){  
 return facultyName;  
 }  
  
 public int getEducationLevel(){  
 return educationLevel;  
 }  
  
 public boolean isContractExistsFlg(){  
 return contractExistsFlg;  
 }  
  
 public boolean isPrivilageExistsFlg(){  
 return privilegeExistsFlg;  
 }  
  
 private static ArrayList<StudentsGroup> *groups* = new ArrayList<StudentsGroup>(  
 Arrays.*asList*(  
 new StudentsGroup("ІПЗ19-1", "Інженерії програмного забезпечення", 0, true, false),  
 new StudentsGroup("ІПЗ19-2", "Інженерії програмного забезпечення", 0, true, false)  
 )  
 );  
  
 public static void addGroup(StudentsGroup group){  
 *groups*.add(group);  
 }  
  
 public static StudentsGroup getGroup(String groupNumber){  
 for (StudentsGroup g: *groups*){  
 if(g.getNumber().equals(groupNumber)){  
 return g;  
 }  
 }  
 return null;  
 }  
  
 public static ArrayList<StudentsGroup> getGroups(){  
 return *groups*;  
 }  
  
 @Override  
 public String toString(){  
 return number;  
 }  
}

StudentsGroupActivity

package com.example.students;  
  
import androidx.appcompat.app.AppCompatActivity;  
import androidx.core.app.NavUtils;  
  
import android.content.ContentValues;  
import android.content.Intent;  
import android.database.Cursor;  
import android.database.sqlite.SQLiteDatabase;  
import android.database.sqlite.SQLiteException;  
import android.database.sqlite.SQLiteOpenHelper;  
import android.os.Bundle;  
import android.view.Gravity;  
import android.view.View;  
import android.widget.CheckBox;  
import android.widget.EditText;  
import android.widget.RadioButton;  
import android.widget.TextView;  
import android.widget.Toast;  
  
import org.w3c.dom.Text;  
  
public class StudentsGroupActivity extends AppCompatActivity {  
  
 public static final String GROUP\_NUMBER = "groupnumber";  
  
 private StudentsGroup group;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.activity\_students\_group2);  
  
 Intent intent = getIntent();  
 int grpNumber = intent.getIntExtra(GROUP\_NUMBER, 0);  
 group = null;  
  
 SQLiteOpenHelper sqLiteOpenHelper = new StudentsDatabaseHelper(this);  
 try {  
 SQLiteDatabase db = sqLiteOpenHelper.getReadableDatabase();  
 Cursor cursor = db.query("groups",  
 new String[] {"number", "facultyName", "educationLevel",  
 "contractExistsFlg", "privilegeExistsFlg", "id"},  
 "id=?", new String[] {Integer.toString(grpNumber)},  
 null, null, null);  
  
 if(cursor.moveToFirst()){  
 group = new StudentsGroup(  
 cursor.getInt(5),  
 cursor.getString(0),  
 cursor.getString(1),  
 cursor.getInt(2),  
 (cursor.getInt(3) > 0),  
 (cursor.getInt(4) > 0)  
 );  
 }  
 else{  
 Toast toast = Toast.makeText(this,  
 "Can't find group with id " + Integer.toString(grpNumber),  
 Toast.LENGTH\_SHORT);  
 toast.show();  
 }  
  
 cursor.close();  
 db.close();  
 } catch (SQLiteException e){  
 Toast toast = Toast.makeText(this,  
 e.getMessage(),  
 Toast.LENGTH\_SHORT);  
 toast.show();  
 }  
  
 EditText txtGrpNumber = (EditText) findViewById(R.id.grpNumberEdit);  
 txtGrpNumber.setText(group.getNumber());  
  
 EditText txtFacultyName = (EditText) findViewById(R.id.facultyEdit);  
 txtFacultyName.setText(group.getFacultyName());  
  
 TextView txtImgGrp = (TextView) findViewById(R.id.grpNumberImageTxt);  
 txtImgGrp.setText(group.getNumber());  
  
 TextView txtImgFaculty = (TextView) findViewById(R.id.facultyNameImageTxt);  
 txtImgFaculty.setText(group.getFacultyName());  
  
 if(group.getEducationLevel() == 0){  
 ((RadioButton) findViewById(R.id.edu\_level\_bachelor)).setChecked(true);  
 }  
 else{  
 ((RadioButton) findViewById(R.id.edu\_level\_master)).setChecked(true);  
 }  
  
 ((CheckBox) findViewById(R.id.contract\_flg)).setChecked(group.isContractExistsFlg());  
 ((CheckBox) findViewById(R.id.privelege\_flg)).setChecked(group.isPrivilageExistsFlg());  
 }  
  
 public void onOkBtnClick(View view){  
 SQLiteOpenHelper sqLiteOpenHelper = new StudentsDatabaseHelper(this);  
  
 ContentValues contentValues = new ContentValues();  
 contentValues.put("number",  
 ((TextView) findViewById(R.id.grpNumberEdit)).getText().toString());  
 contentValues.put("facultyName",  
 ((TextView) findViewById(R.id.facultyEdit)).getText().toString());  
 contentValues.put("educationLevel",  
 ((RadioButton) findViewById(R.id.edu\_level\_master)).isChecked() ? 1 : 0);  
 contentValues.put("contractExistsFlg",  
 ((CheckBox) findViewById(R.id.contract\_flg)).isChecked());  
 contentValues.put("privilegeExistsFlg",  
 ((CheckBox) findViewById(R.id.privelege\_flg)).isChecked());  
  
 Intent intent = getIntent();  
 int grpNumber = intent.getIntExtra(GROUP\_NUMBER, 0);  
  
 try {  
 SQLiteDatabase db = sqLiteOpenHelper.getReadableDatabase();  
 db.update("groups",  
 contentValues,  
 "id=?",  
 new String[] {Integer.toString(grpNumber)});  
  
 db.close();  
 NavUtils.navigateUpFromSameTask(this);  
 } catch (SQLiteException e){  
 Toast toast = Toast.*makeText*(this,  
 e.getMessage(),  
 Toast.*LENGTH\_SHORT*);  
 toast.show();  
 }  
  
 }  
  
 public void onBtnStudListClick(View view){  
 Intent newIntent = new Intent(this, StudentsListActivity.class);  
 newIntent.putExtra(StudentsListActivity.*GROUP\_NUMBER*, group.getId());  
 startActivity(newIntent);  
 }  
  
 public void onDelete(View view){  
 SQLiteOpenHelper sqLiteOpenHelper = new StudentsDatabaseHelper(this);  
  
 Intent intent = getIntent();  
 int grpNumber = intent.getIntExtra(*GROUP\_NUMBER*, 0);  
  
 try {  
 SQLiteDatabase db = sqLiteOpenHelper.getReadableDatabase();  
 db.delete("groups",  
 "id=?",  
 new String[] {Integer.*toString*(grpNumber)});  
  
 db.close();  
 NavUtils.*navigateUpFromSameTask*(this);  
 } catch (SQLiteException e){  
 Toast toast = Toast.*makeText*(this,  
 e.getMessage(),  
 Toast.*LENGTH\_SHORT*);  
 toast.show();  
 }  
 }  
}

StudentsListActivity

package com.example.students;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.content.Intent;  
import android.database.Cursor;  
import android.database.sqlite.SQLiteDatabase;  
import android.database.sqlite.SQLiteException;  
import android.database.sqlite.SQLiteOpenHelper;  
import android.os.Bundle;  
import android.util.TypedValue;  
import android.view.View;  
import android.widget.AdapterView;  
import android.widget.ArrayAdapter;  
import android.widget.ListView;  
import android.widget.SimpleCursorAdapter;  
import android.widget.TextView;  
import android.widget.Toast;  
  
import org.w3c.dom.Text;  
  
import java.util.ArrayList;  
import java.util.List;  
  
public class StudentsListActivity extends AppCompatActivity {  
  
 public static final String *GROUP\_NUMBER* = "groupnumber";  
 public static final String *STUDENT\_NAME* = "name";  
  
 private int grpNumber;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_students\_list*);  
  
 Intent intent = getIntent();  
 grpNumber = intent.getIntExtra(*GROUP\_NUMBER*, 0);  
  
 AdapterView.OnItemClickListener listener = new AdapterView.OnItemClickListener(){  
 @Override  
 public void onItemClick(AdapterView<?> adapterView, View view, int i, long l){  
 Student student = (Student) adapterView.getItemAtPosition(i);  
 Intent intent = new Intent(StudentsListActivity.this,  
 StudentActivity.class);  
 intent.putExtra(StudentActivity.*GROUP\_NUMBER*, Integer.*toString*(grpNumber));  
 intent.putExtra(*STUDENT\_NAME*, student.getName());  
 startActivity(intent);  
 }  
 };  
  
 ListView listView = (ListView) findViewById(R.id.*studentsList*);  
 listView.setOnItemClickListener(listener);  
  
 }  
  
 @Override  
 public void onStart(){  
 super.onStart();  
  
 ListView listView = (ListView) findViewById(R.id.*studentsList*);  
 ArrayAdapter<Student> adapter = new ArrayAdapter<Student>(  
 this,  
 android.R.layout.*simple\_list\_item\_1*,  
 getDataFromDB(grpNumber)  
 );  
  
 listView.setAdapter(adapter);  
 }  
  
 public void onAddStudentClick(View view){  
 Intent intent = new Intent(this, AddStudentActivity.class);  
 intent.putExtra(*GROUP\_NUMBER*, Integer.*toString*(grpNumber));  
 startActivity(intent);  
 }  
  
 public void onSendBtnClick(View view){  
 TextView textView = (TextView) findViewById(android.R.id.*text1*);  
  
 Intent intent = new Intent(Intent.*ACTION\_SEND*);  
 intent.setType("text/plain");  
 intent.putExtra(Intent.*EXTRA\_TEXT*, textView.getText().toString());  
 intent.putExtra(Intent.*EXTRA\_SUBJECT*, "Список студентів");  
 startActivity(intent);  
 }  
  
 private ArrayList<Student> getDataFromDB(int groupId){  
 ArrayList<Student> students = new ArrayList<Student>();  
  
 SQLiteOpenHelper sqLiteOpenHelper = new StudentsDatabaseHelper(this);  
 try {  
 SQLiteDatabase db = sqLiteOpenHelper.getReadableDatabase();  
 Cursor cursor = db.rawQuery("SELECT s.id \_id, name, number\n" +  
 "FROM students s INNER JOIN groups g ON s.group\_id = g.id\n" +  
 "WHERE g.id = ?", new String[] {Integer.*toString*(groupId)});  
  
 while (cursor.moveToNext()){  
 students.add(  
 new Student(  
 cursor.getString(1),  
 cursor.getString(0)  
 )  
 );  
 }  
  
 cursor.close();  
 db.close();  
 } catch (SQLiteException e){  
 Toast toast = Toast.*makeText*(this,  
 e.getMessage(),  
 Toast.*LENGTH\_SHORT*);  
 toast.show();  
 }  
  
 return students;  
 }  
  
}