Министерство образования Российской Федерации

Пензенский государственный университет

Кафедра "Вычислительной техники"

**ОТЧЁТ**

По лабораторной №5

по дисциплине "Графические интерфейсы Android и QT"

на тему "SQLite для хранения данных"

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**Задание:**

1. В приведенном примере кода загруженные данные о пользователях выводятся в лог. Реализуйте вывод загруженных данных на экран.

2. Реализуйте метод проверки пары Логин – Пароль для авторизации в приложении.

3. Реализуйте метод изменения пароля для авторизованного пользователя.

4. Реализуйте метод удаления пользователя (по логину) из БД.

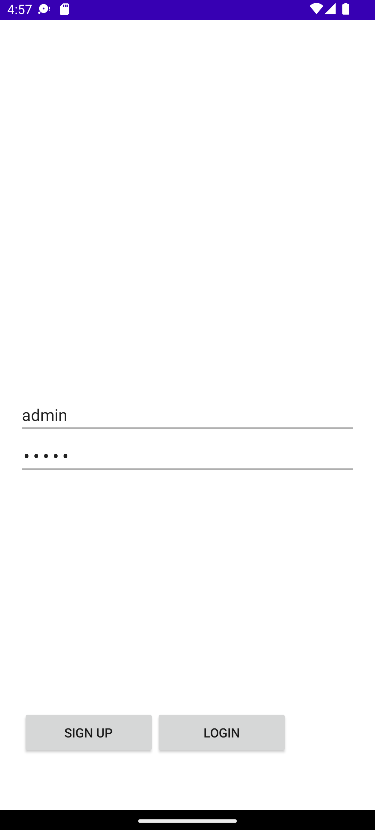


Рисунок 1. Результат работы программы

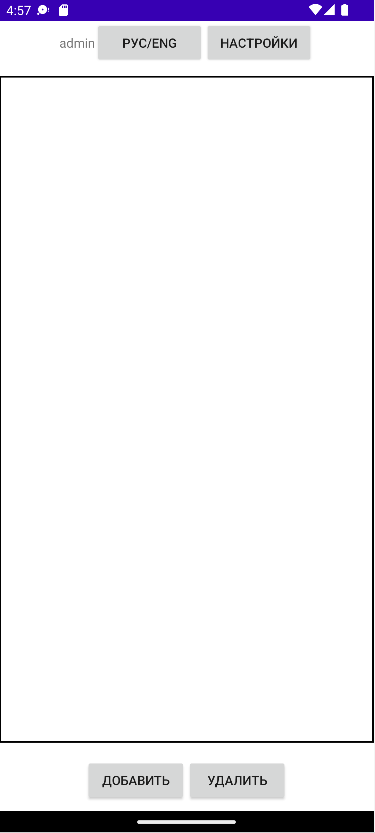


Рисунок 2. Результат работы программы

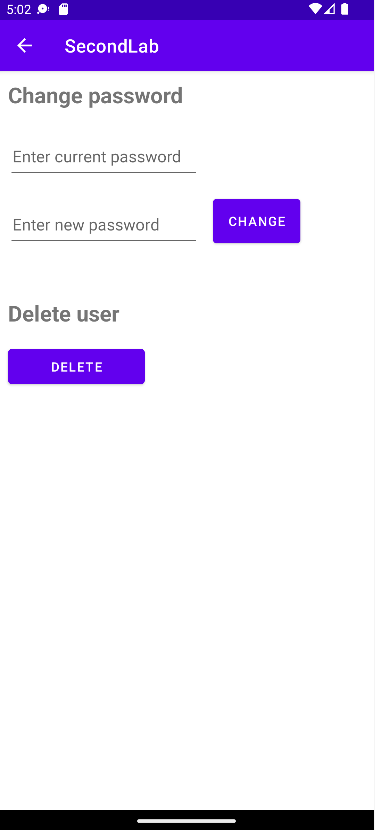


Рисунок 3. Результат работы программы

**Листинг:**

**AuthActivity**

**package** com.example.secondlab;  
  
**import** android.app.Activity;  
**import** android.content.Intent;  
**import** android.os.Bundle;  
**import** android.util.Log;  
**import** android.view.View;  
**import** android.widget.Button;  
**import** android.widget.EditText;  
**import** android.widget.TextView;  
**import** com.example.secondlab.db.User;  
**import** androidx.annotation.Nullable;  
**import** com.example.secondlab.db.DatabaseHandler;  
  
**public class** AuthActivity **extends** Activity {  
  
 DatabaseHandler **db**;  
 EditText **username**, **password**;  
  
 @Override  
 **protected void** onCreate(@Nullable Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_auth***);  
 **db** = **new** DatabaseHandler(**this**);  
  
 **username** = (EditText)findViewById(R.id.***editText1***);  
 **password** = (EditText)findViewById(R.id.***editText2***);  
  
 Button buttonLogin = findViewById(R.id.***buttonLogin***);  
 Button buttonSignUp = findViewById(R.id.***buttonSingUp***);  
  
 buttonSignUp.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View v) {  
 String messageAdd = **db**.addUser(**new** User(**username**.getText().toString(), **password**.getText().toString()));  
 **if**(messageAdd.equals(**"Login available"**)){  
 handleError(String.*format*(**"User %s is registered"**, **username**.getText().toString()));  
 }  
 **else**{  
 handleError(messageAdd);  
 }  
 }  
 });  
 buttonLogin.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View v) {  
 **if** (**username**.getText().toString().length() == 0 || **password**.getText().toString().length() == 0){  
 handleError(**"Fill all fields"**);  
 } **else** {  
 handleError(**""**);  
 signInApp();  
 }  
 }  
 });  
 **username**.setOnFocusChangeListener(**new** View.OnFocusChangeListener() {  
 @Override  
 **public void** onFocusChange(View view, **boolean** b) {  
 handleError(**""**);  
 }  
 });  
 }  
  
 **public void** handleError (String message) {  
 TextView errorText = findViewById(R.id.***errorText***);  
 errorText.setText(message);  
 }  
  
 **public void** signInApp () {  
 **int** condition = 0;  
 String thisLoginUser = **username**.getText().toString();  
 String passCmp= **password**.getText().toString();  
  
 String dataUser = **db**.getUser(thisLoginUser);  
  
 **if**(!dataUser.equals(**"null"**)){  
 String[] cmpData = dataUser.split(**" "**);  
  
 **if**(cmpData[0].equals(thisLoginUser)){  
 Log.*e*(**"cmplog"**, cmpData[0]);  
 condition += 1;  
 }**else**{  
 handleError(**"Wrong username"**);  
 condition = 0;  
 }  
  
 **if** (cmpData[1].equals(passCmp)){  
 Log.*e*(**"cmppass"**, cmpData[1]);  
 condition += 1;  
 }**else**{  
 handleError(**"Wrong password"**);  
 condition = 0;  
 }  
  
 **if**(condition == 2){  
 handleError(**""**);  
 Intent intent = **new** Intent(**this**, ListActivity.**class**);  
 intent.putExtra(**"username"**, cmpData[0]);  
 intent.putExtra(**"password"**, cmpData[1]);  
 **username**.setText(**""**);  
 **password**.setText(**""**);  
 startActivity(intent);  
 }  
 Log.*e*(**"cmp"**, cmpData[0] +**" "**+ cmpData[1]);  
 }  
 **else**{  
 handleError(**"User not found"**);  
 }  
 }  
}

**ListActivity**

**package** com.example.secondlab;  
  
**import** android.app.Activity;  
**import** android.content.Intent;  
**import** android.os.Bundle;  
**import** android.view.View;  
**import** android.widget.ArrayAdapter;  
**import** android.widget.Button;  
**import** android.widget.ListView;  
**import** android.widget.TextView;  
  
**import** androidx.annotation.Nullable;  
  
**import** java.util.ArrayList;  
  
**public class** ListActivity **extends** Activity {  
 **int clickCounter** = 0;  
 String **addEng** = **"Add"**;  
 String **addRus** = **"Добавить"**;  
 String **removeEng** = **"Remove"**;  
 String **removeRus** = **"Удалить"**;  
 String **settingsEng** = **"Settings"**;  
 String **settingsRus** = **"Настройки"**;  
 **boolean isRus** = **true**;  
  
 String **username**, **password**;  
 @Override  
 **protected void** onCreate(@Nullable Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_list***);  
  
 ArrayList<String> myStringArray = **new** ArrayList<String>();  
 ArrayAdapter<String> TextAdapter = **new** ArrayAdapter(**this**, android.R.layout.***simple\_list\_item\_1***, myStringArray);  
 ListView textList = findViewById(R.id.***textList***);  
 textList.setAdapter(TextAdapter);  
  
 Button buttonLang = findViewById(R.id.***buttonLang***);  
 Button buttonAdd = findViewById(R.id.***buttonAdd***);  
 Button buttonRemove = findViewById(R.id.***buttonRemove***);  
 Button buttonSettings = findViewById(R.id.***buttonSettings***);  
 TextView usernameTitle = findViewById(R.id.***username***);  
  
 Bundle extras = getIntent().getExtras();  
 **if** (extras != **null**) {  
 **username** = extras.getString(**"username"**);  
 **password** = extras.getString(**"password"**);  
 usernameTitle.setText(**username**);  
 }  
  
 buttonAdd.setText(**addRus**);  
 buttonRemove.setText(**removeRus**);  
 buttonSettings.setText(**settingsRus**);  
  
 buttonLang.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View v) {  
 **if** (**isRus**) {  
 buttonAdd.setText(**addEng**);  
 buttonRemove.setText(**removeEng**);  
 buttonSettings.setText(**settingsEng**);  
 **isRus** = **false**;  
 } **else** {  
 buttonAdd.setText(**addRus**);  
 buttonRemove.setText(**removeRus**);  
 buttonSettings.setText(**settingsRus**);  
 **isRus** = **true**;  
 }  
 }  
 });  
 buttonAdd.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View v) {  
 myStringArray.add(**"Clicked : "**+**clickCounter**++);  
 TextAdapter.notifyDataSetChanged();  
 }  
 });  
 buttonRemove.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View v) {  
 **int** lastItemPosition = myStringArray.size() - 1;  
 **if** (lastItemPosition >= 0) {  
 myStringArray.remove(myStringArray.size() - 1);  
 TextAdapter.notifyDataSetChanged();  
 }  
 }  
 });  
 buttonSettings.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View view) {  
 goToSettings();  
 }  
 });  
 }  
  
 **public void** goToSettings () {  
 Intent intent = **new** Intent(**this**, SettingsActivity.**class**);  
 intent.putExtra(**"username"**, **username**);  
 intent.putExtra(**"password"**, **password**);  
 startActivity(intent);  
 }  
}

**SettingsActivity**

**package** com.example.secondlab;  
  
**import** androidx.appcompat.app.AppCompatActivity;  
  
**import** android.content.Intent;  
**import** android.content.SharedPreferences;  
**import** android.os.Bundle;  
**import** android.util.Log;  
**import** android.view.View;  
**import** android.widget.Button;  
**import** android.widget.EditText;  
**import** android.widget.TextView;  
  
**import** com.example.secondlab.db.DatabaseHandler;  
**import** com.example.secondlab.db.User;  
  
**public class** SettingsActivity **extends** AppCompatActivity **implements** View.OnClickListener{  
  
 Button **settingEditBut**, **settingDelBut**;  
 EditText **oldPass**, **newPass**;  
 DatabaseHandler **db**;  
 String **username**, **password**;  
  
  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_settings***);  
  
 **db** = **new** DatabaseHandler(**this**);  
  
 **oldPass** = findViewById(R.id.***oldPass***);  
 **newPass** = findViewById(R.id.***newPass***);  
 **settingDelBut** = findViewById(R.id.***settingDelBut***);  
 **settingEditBut** = findViewById(R.id.***settingEditBut***);  
  
 **settingEditBut**.setOnClickListener(**this**);  
 **settingDelBut**.setOnClickListener(**this**);  
  
 Bundle extras = getIntent().getExtras();  
 String usernameDB = extras.get(**"username"**).toString();  
 String passDB = extras.get(**"password"**).toString();  
  
 **username** = usernameDB;  
 **password** = passDB;  
 }  
  
 @Override  
 **public void** onClick (View view) {  
 **switch** (view.getId()){  
 **case** R.id.***settingEditBut***:  
 updatePass();  
 **break**;  
 **case** R.id.***settingDelBut***:  
 deleteUserPref();  
 **break**;  
 **default**:  
 **break**;  
 }  
 }  
  
 **public void** updatePass () {  
 String passwordNew = **newPass**.getText().toString();  
  
 **if**(**password**.equals(**oldPass**.getText().toString())) {  
 **db**.updatePassword(**username**, passwordNew);  
 handleError(**"Password successfully changed"**);  
 Intent intent = **new** Intent(SettingsActivity.**this**, AuthActivity.**class**);  
 startActivity(intent);  
 } **else** {  
 handleError(**"Wrong current password"**);  
 }  
 }  
 **public void** deleteUserPref () {  
 **db**.deleteUser(**username**);  
  
 Intent intent = **new** Intent(SettingsActivity.**this**, AuthActivity.**class**);  
 startActivity(intent);  
 }  
 **public void** handleError (String message) {  
 TextView errorText = findViewById(R.id.***errorText***);  
 errorText.setText(message);  
 }  
  
}

**Верстка:**

**Activity\_auth**

*<?***xml version="1.0" encoding="utf-8"***?>*<**FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:paddingHorizontal="20dp"**>  
 <**EditText  
 android:id = "@+id/editText1"  
 android:layout\_width = "match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_gravity="center\_vertical"  
 android:hint="Login"** />  
 <**EditText  
 android:id = "@+id/editText2"  
 android:layout\_width = "match\_parent"  
 android:layout\_height="wrap\_content"  
 android:inputType = "textPassword"  
 android:layout\_marginTop="45dp"  
 android:hint="Password"  
 android:layout\_gravity="center\_vertical"** />  
 <**TextView  
 android:id = "@+id/errorText"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_gravity="bottom"  
 android:layout\_marginBottom="30dp"  
 android:textColor="@color/design\_default\_color\_error"** />  
 <**Button  
 android:id = "@+id/buttonLogin"  
 android:layout\_width = "wrap\_content"  
 android:layout\_height = "wrap\_content"  
 android:text = "Login"  
 android:layout\_marginBottom="60dp"  
 android:layout\_gravity="bottom"  
 android:layout\_marginLeft="50pt"** />  
</**FrameLayout**>

**Activity\_list**

*<?***xml version="1.0" encoding="utf-8"***?>*<**FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"**>  
 <**LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="horizontal"  
 android:layout\_gravity="top"  
 android:gravity="center\_horizontal"  
 android:layout\_marginBottom="10dp"**>  
 <**TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/username"**>  
 </**TextView**>  
 <**Button  
 android:id="@+id/buttonLang"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_gravity="top"  
 android:layout\_marginStart="100pt"  
 android:text="Рус/Eng"**/>  
 </**LinearLayout**>  
  
 <**include layout="@layout/list"**/>  
  
 <**LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="horizontal"  
 android:layout\_gravity="bottom"  
 android:gravity="center\_horizontal"  
 android:layout\_marginBottom="10dp"**>  
 <**Button  
 android:id="@+id/buttonAdd"  
 android:layout\_width="50pt"  
 android:layout\_height="wrap\_content"** />  
  
 <**Button  
 android:id="@+id/buttonRemove"  
 android:layout\_width="50pt"  
 android:layout\_height="wrap\_content"** />  
 </**LinearLayout**>  
  
</**FrameLayout**>

**Activity\_settings**

*<?***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:layout\_width="match\_parent"  
 android:layout\_height="40dp"  
 android:layout\_margin="10dp"  
 android:fontFamily="sans-serif"  
 android:text="Change password"  
 android:textAlignment="viewStart"  
 android:textAllCaps="false"  
 android:textSize="24sp"  
 android:textStyle="bold"** />  
  
 <**EditText  
 android:id="@+id/oldPass"  
 android:layout\_width="210dp"  
 android:layout\_height="50dp"  
 android:layout\_margin="10dp"  
 android:hint="Enter current password"  
 android:paddingStart="5dp"  
 android:paddingTop="8dp"** />  
 <**LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="horizontal"**>  
  
 <**EditText  
 android:id="@+id/newPass"  
 android:layout\_width="210dp"  
 android:layout\_height="50dp"  
 android:layout\_margin="10dp"  
 android:hint="Enter new password"  
 android:paddingStart="5dp"  
 android:paddingTop="8dp"  
 android:autofillHints="password"** />  
  
 <**Button  
 android:id="@+id/settingEditBut"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="60dp"  
 android:layout\_margin="5dp"  
 android:text="Change"** />  
 </**LinearLayout**>  
 <**TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/errorText"  
 android:textColor="@color/design\_default\_color\_error"  
 android:layout\_marginBottom="20dp"  
 android:layout\_marginLeft="10dp"** />  
 <**TextView  
 android:layout\_width="match\_parent"  
 android:layout\_height="40dp"  
 android:layout\_margin="10dp"  
 android:fontFamily="sans-serif"  
 android:text="Delete user"  
 android:textAlignment="viewStart"  
 android:textSize="24sp"  
 android:textStyle="bold"**/>  
  
 <**Button  
 android:id="@+id/settingDelBut"  
 android:layout\_width="150dp"  
 android:layout\_height="50dp"  
 android:layout\_marginStart="10dp"  
 android:text="Delete"** />  
  
</**LinearLayout**>

Вывод: в ходе выполнения лабораторной работы мы разработали простейшее Android приложение.