**Лабораторная работа 6.**

**Диалоговые окна**

**Теория**

<https://metanit.com/java/tutorial/>

<https://metanit.com/java/android/>

**Практика**

**Задание 1**

Разработать приложение, запускающее при нажатии кнопки диалоговое окно.

**Задание 2**

Разработать приложение, позволяющее задавать поля класса Student через диалоговое окно и выводить результат на экран.

Содержание **MainActivity**

**package** com.example.dialoglab;  
  
**import** androidx.appcompat.app.AppCompatActivity;  
  
**import** android.os.Bundle;  
**import** android.view.View;  
**import** android.widget.EditText;  
**import** android.widget.TextView;  
  
**public class** MainActivity **extends** AppCompatActivity **implements** Setable {  
  
 @Override  
 **public void** onCreate(Bundle savedInstance) {  
 **super**.onCreate(savedInstance);  
 setContentView(R.layout.***activity\_main***);  
 }  
  
 **public void** showDialog(View v) {  
 CustomDialogFragment dialog = **new** CustomDialogFragment();  
 dialog.show(getSupportFragmentManager(), **"custom"**);  
 }  
  
 @Override  
 **public void** applyStudent(Student student) {  
 TextView nameTxtResult = (TextView) findViewById(R.id.***studentName***);  
 TextView surnameTxtResult = (TextView) findViewById(R.id.***studentSurname***);  
 TextView courseTxtResult = (TextView) findViewById(R.id.***studentCourse***);  
 nameTxtResult.setText(student.**name**);  
 surnameTxtResult.setText(student.**surname**);  
 courseTxtResult.setText(String.*valueOf*(student.**course**));  
 }  
}

Содержание **activity\_main.xml**

*<?***xml version="1.0" encoding="utf-8"***?>*<**androidx.constraintlayout.widget.ConstraintLayout  
 xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:paddingTop="50dp"  
 android:paddingBottom="50dp"  
 android:paddingLeft="25dp"  
 android:paddingRight="25dp"  
 tools:context=".MainActivity"**>  
  
 <**TextView  
 android:id="@+id/studentName"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Name"  
 android:textSize="18dp"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"**/>  
  
 <**TextView  
 android:id="@+id/studentSurname"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Surname"  
 android:textSize="18dp"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@id/studentName"**/>  
  
 <**TextView  
 android:id="@+id/studentCourse"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Course"  
 android:textSize="18dp"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@id/studentSurname"**/>  
  
 <**Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Dialog"  
 android:onClick="showDialog"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@id/studentCourse"**/>  
  
</**androidx.constraintlayout.widget.ConstraintLayout**>

Содержание **CustomDialogFragment**

**package** com.example.dialoglab;  
  
**import** android.app.AlertDialog;  
**import** android.app.Dialog;  
**import** android.content.Context;  
**import** android.content.DialogInterface;  
**import** android.os.Bundle;  
**import** android.text.InputType;  
**import** android.view.LayoutInflater;  
**import** android.view.View;  
**import** android.widget.EditText;  
**import** androidx.annotation.NonNull;  
**import** androidx.fragment.app.DialogFragment;  
  
**public class** CustomDialogFragment **extends** DialogFragment {  
  
 **private** EditText **editTextName**;  
 **private** EditText **editTextSurname**;  
 **private** EditText **editTextCourse**;  
 **private** Setable **listener**;  
  
 @NonNull  
 **public** Dialog onCreateDialog(Bundle savedInstanceState) {  
 AlertDialog.Builder builder = **new** AlertDialog.Builder(getActivity());  
 LayoutInflater inflater = getActivity().getLayoutInflater();  
 View view = inflater.inflate(R.layout.***fragment\_custom\_dialog***, **null**);  
 builder  
 .setTitle(**"Add student"**)  
 .setView(view)  
 .setPositiveButton(**"Ok"**, **new** DialogInterface.OnClickListener() {  
 @Override  
 **public void** onClick(DialogInterface dialogInterface, **int** i) {  
 String name = **editTextName**.getText().toString();  
 String surname = **editTextSurname**.getText().toString();  
 **int** course = Integer.*parseInt*(**editTextCourse**.getText().toString());  
 **listener**.applyStudent(**new** Student(name, surname, course));  
 }  
 })  
 .setNegativeButton(**"Cancel"**, **new** DialogInterface.OnClickListener() {  
 @Override  
 **public void** onClick(DialogInterface dialogInterface, **int** i) {  
  
 }  
 });  
 **editTextName** = view.findViewById(R.id.***name***);  
 **editTextSurname** = view.findViewById(R.id.***surname***);  
 **editTextCourse** = view.findViewById(R.id.***course***);  
 **return** builder.create();  
 }  
  
 @Override  
 **public void** onAttach(Context context) {  
 **super**.onAttach(context);  
 **listener** = (Setable) context;  
 }  
}

Содержание **fragment\_custom\_dialog.xml**

*<?***xml version="1.0" encoding="utf-8"***?>*<**androidx.constraintlayout.widget.ConstraintLayout  
 xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:paddingLeft="25dp"  
 android:paddingRight="25dp"**>  
  
 <**EditText  
 android:id="@+id/name"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="20dp"  
 android:hint="Name"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintRight\_toRightOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"**/>  
  
 <**EditText  
 android:id="@+id/surname"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:hint="Surname"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintRight\_toRightOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@id/name"** />  
  
 <**EditText  
 android:id="@+id/course"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:hint="Course"  
 android:inputType="number"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintRight\_toRightOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@id/surname"** />  
  
</**androidx.constraintlayout.widget.ConstraintLayout**>

Содержание интерфейса **Setable**

**package** com.example.dialoglab;  
  
**public interface** Setable {  
 **void** applyStudent(Student student);  
}

**Задание 3**

Переопределить методы GetStatus() производных классов.

Содержание класса **Device**

**package** com.example.lab4task1;  
  
**import** java.io.Serializable;  
  
**public class** Device **implements** Serializable {  
 **int serial\_number**;  
 **protected** String **status** = **"Off"**;  
  
 Device() { }  
  
 Device(**int** serial\_numberValue) {  
 **serial\_number** = serial\_numberValue;  
 }  
  
 **public void** TurnOn() {  
 **status** = **"On"**;  
 }  
  
 **public void** TurnOff() {  
 **status** = **"Off"**;  
 }  
  
 **public** String GetStatus() {  
 **return "Device is "** + **status**;  
 }  
  
 @Override  
 **public** String toString() {  
 **return "Serial number: "** + **serial\_number**;  
 }  
}

Содержание класса **Printer**

**package** com.example.lab4task1;  
  
**import** java.io.Serializable;  
  
**public class** Printer **extends** Device **implements** Serializable {  
 **int speed**;  
 String **format**;  
  
 @Override  
 **public** String toString() {  
 **return super**.toString() + **"\nSpeed: "** + **speed** + **"\nFormat: "** + **format**;  
 }  
  
 @Override  
 **public** String GetStatus() {  
 **return "Printer is "** + **status**;  
 }  
}

Содержание класса **Computer**

**package** com.example.lab4task1;  
  
**import** java.io.Serializable;  
  
**public class** Computer **extends** Device **implements** Serializable {  
 **int RAM**;  
 **float CPUfrequency**;  
  
 @Override  
 **public** String toString() {  
 **return super**.toString() + **"\nRAM: "** + **RAM** + **"\nCPU frequency: "** + **CPUfrequency**;  
 }  
  
 @Override  
 **public** String GetStatus() {  
 **return "Computer is "** + **status**;  
 }  
}

**Задание 3**

Реализовать свой производный класс с возможностью его создания и вывода на экран приложения.