Министерство образования и молодежной политики Свердловской области



ГАПОУ СО «Екатеринбургский колледж транспортного строительства»

Отчёт по учебной практике

УП 01.01

Выполнила: Комаров Михаил Александрович

Группа: ПР-32

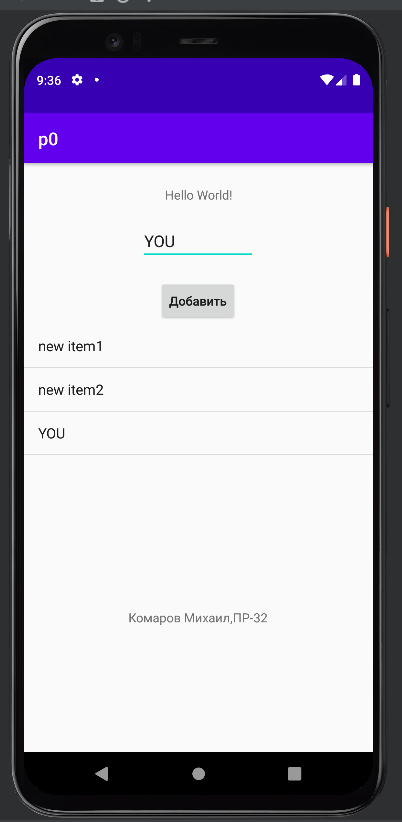
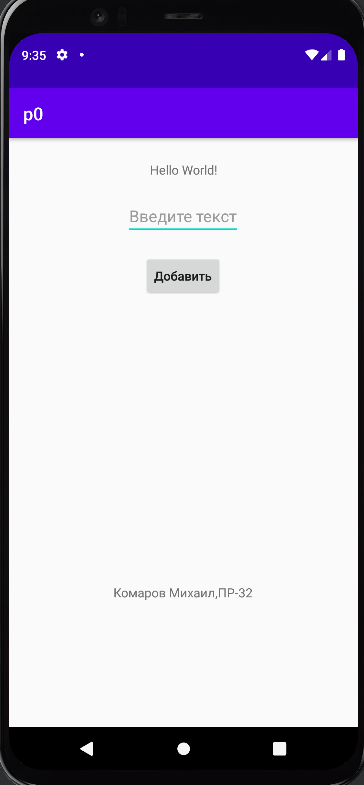
Преподаватель: Бушуева Е.В.

2023

# Тема: «Вводная практика»

**Приложение “p02”:**

Данная программа осуществляет написание пользователем списка, просмотра списка и удаление элементов из списка.



Структура проекта состоит из страниц(-ы):

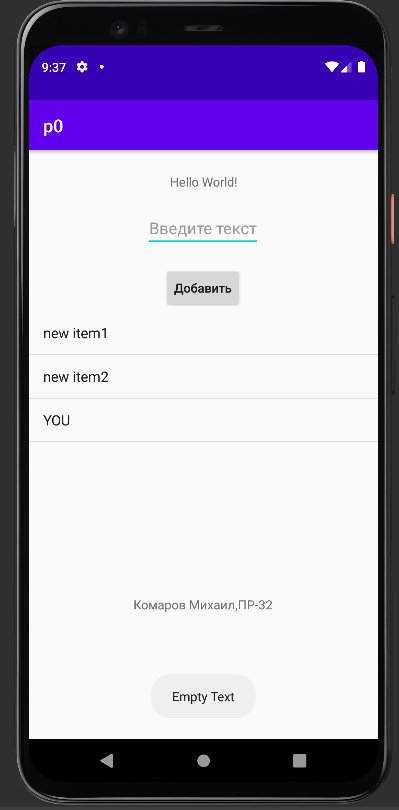


Используемые инструменты:

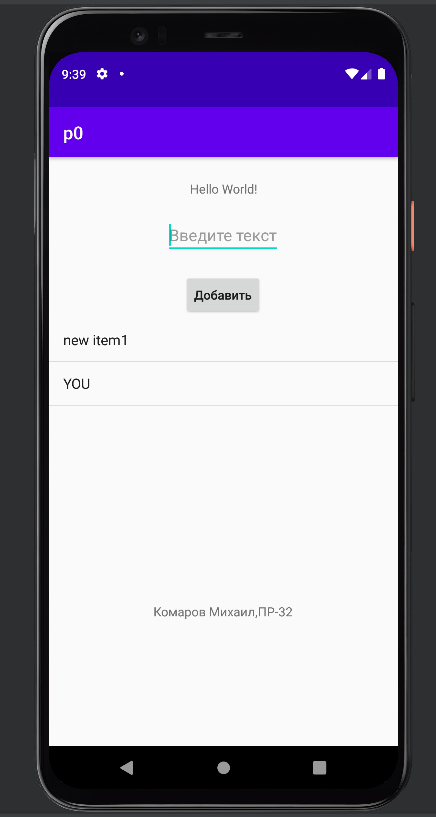
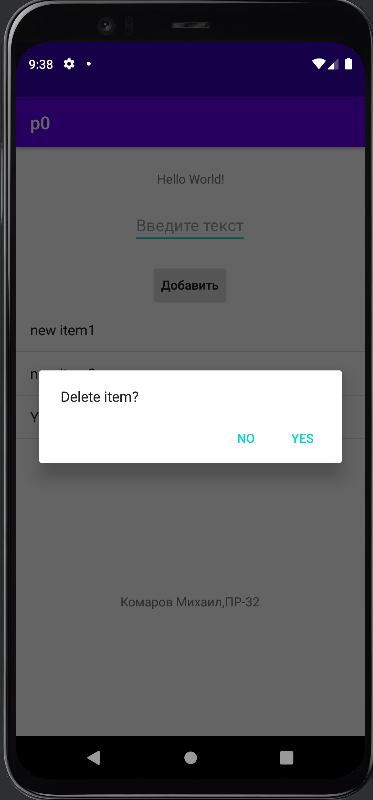
* Среда разработки Android Studio для устройства Android.

Тестовые ситуации:

* Пустая строка.



При нажатии на элемент в листе, элемент удалится:



Листинг программы:

* activity\_main.xml

<?xml version="1.0" encoding="utf-8"?>  
<android.support.constraint.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"  
 tools:context=".MainActivity">  
  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Hello World!"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.04" />  
  
  
 <EditText  
 android:id="@+id/text\_data"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:hint="@string/Hint"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.498"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.106" />  
  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="@string/textButton"  
 android:textAllCaps="false"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.498"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.213" />  
  
 <TextView  
 android:id="@+id/textView2"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="@string/Fullname"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.498"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.779" />  
  
 <ListView  
 android:id="@+id/list\_data"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="300dp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
</android.support.constraint.ConstraintLayout>

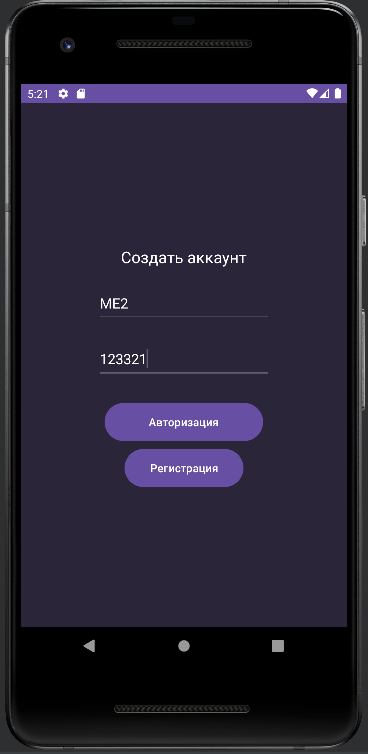
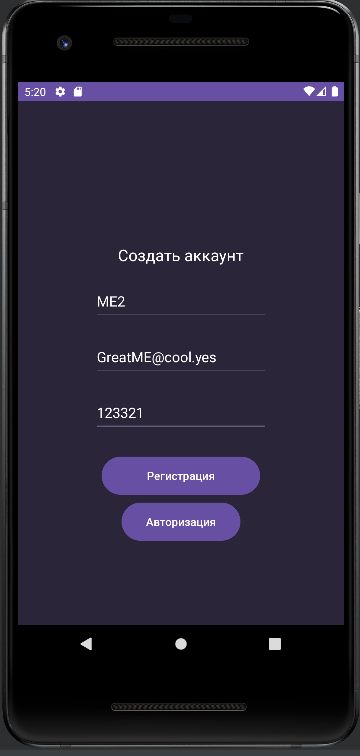
* activity\_main.kt

package com.bignerdranch.android.p0  
  
import android.content.DialogInterface  
import android.support.v7.app.AppCompatActivity  
import android.os.Bundle  
import android.support.v7.app.AlertDialog  
import android.widget.\*  
  
class MainActivity : AppCompatActivity() {  
 override fun onCreate(savedInstanceState: Bundle?) {  
 super.onCreate(savedInstanceState)  
 setContentView(R.layout.*activity\_main*)  
 var label=findViewById<TextView>(R.id.*textView*)  
 var button=findViewById<Button>(R.id.*button*)  
 var textData: EditText = findViewById(R.id.*text\_data*)  
 var listData: ListView =findViewById(R.id.*list\_data*)  
 var label2=findViewById<TextView>(R.id.*textView2*)  
  
 var data= *arrayListOf*<String>()  
 var adapter= ArrayAdapter<String>(this,android.R.layout.*simple\_list\_item\_1*, data);  
 listData.*adapter*=adapter  
  
 button.setOnClickListener**{** var text = textData.*text*.toString().*trim*()  
 if(!text.*isNullOrEmpty*())  
 {  
 data.add(text)  
 Toast.makeText(this, text, Toast.*LENGTH\_SHORT*).show()  
 }  
 else  
 {  
 Toast.makeText(this, "Empty Text", Toast.*LENGTH\_SHORT*).show()  
 }  
  
 **}** listData.setOnItemClickListener **{**\_,\_,position,\_**->** var message= AlertDialog.Builder(this)  
 .setMessage("Delete item?")  
 .setPositiveButton("Yes",  
 DialogInterface.OnClickListener**{** dialog, which **->** data.removeAt(position)  
 adapter.notifyDataSetChanged()  
 Toast.makeText(this, "Item is delete", Toast.*LENGTH\_SHORT*).show()  
 **}**)  
 .setNegativeButton("No",  
 DialogInterface.OnClickListener**{** dialog, which **->  
  
 }**)  
 .create()  
 .show()  
  
 **}** }  
}

# Тема: «Практическая работа №1, 2, 3 и 4»

**Приложение “p1-2”:**

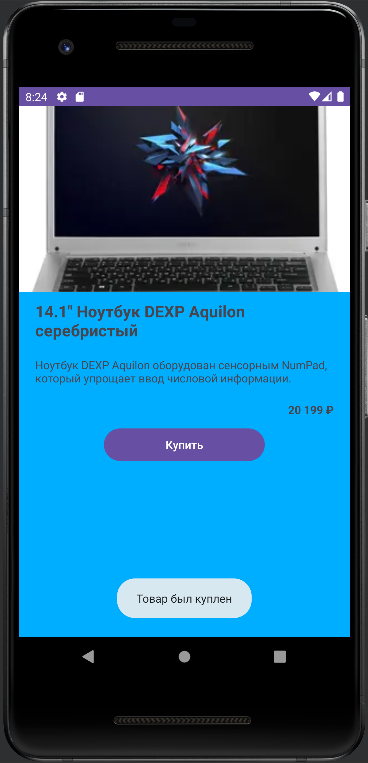
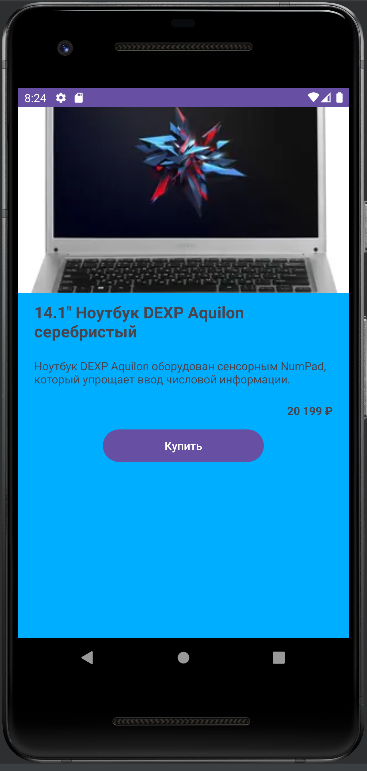
Данная программа регистрирует пользователя (его логин, почта и пароль) и авторизует уже зарегистрированные пользователи.



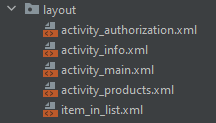
После авторизации или регистрации пользователю выдают список товаров.



При нажатии кнопки “Посмотреть” выводится информация о товаре, кторый можно купить.



Структура проекта состоит из страниц(-ы):

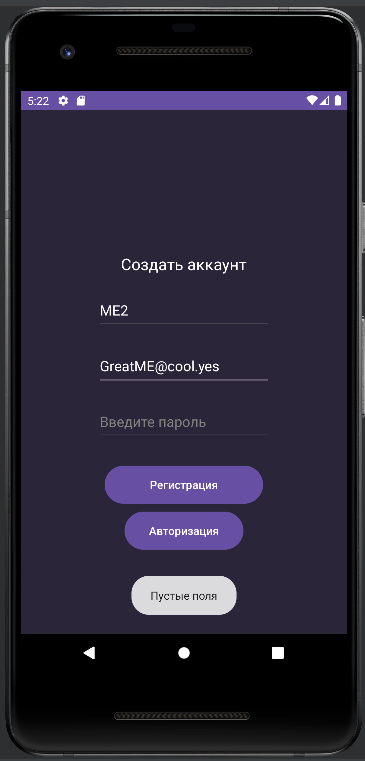
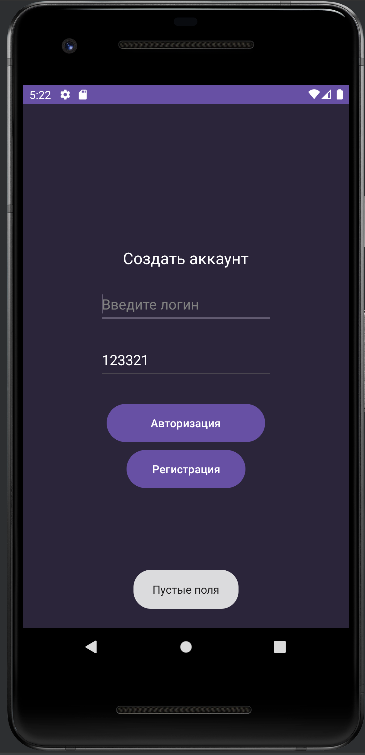


Используемые инструменты:

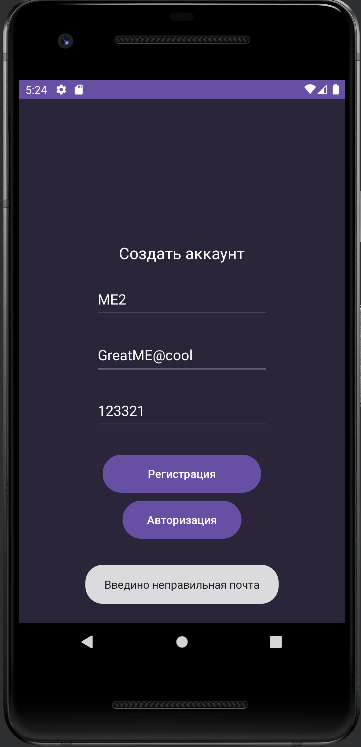
* Среда разработки Android Studio для устройства Android.

Тестовые ситуации:

* Пустые строки.



* Проверка маски почты.



Листинг программ:

* activity\_main.xml

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout 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"  
 tools:context=".MainActivity"  
 android:orientation="vertical"  
 android:background="@color/Backround"  
 android:gravity="center\_horizontal">  
  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="180dp"  
 android:text="@string/text\_registr"  
 android:textSize="20dp"  
 android:textColor="@color/white"  
 />  
 <EditText  
 android:layout\_width="220dp"  
 android:layout\_height="50dp"  
 android:layout\_marginTop="20dp"  
 android:textColor="@color/white"  
 android:textColorHint="@color/grey"  
 android:id="@+id/user\_login"  
 android:hint="@string/text\_login"/>  
 <EditText  
 android:layout\_width="220dp"  
 android:layout\_height="50dp"  
 android:layout\_marginTop="20dp"  
 android:textColor="@color/white"  
 android:textColorHint="@color/grey"  
 android:id="@+id/user\_email"  
 android:hint="@string/text\_email"/>  
 <EditText  
 android:layout\_width="220dp"  
 android:layout\_height="50dp"  
 android:layout\_marginTop="20dp"  
 android:textColor="@color/white"  
 android:textColorHint="@color/grey"  
 android:id="@+id/user\_password"  
 android:hint="@string/text\_password"/>  
 <Button  
 android:layout\_width="200dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="30dp"  
 android:id="@+id/button\_main"  
 android:textColor="@color/white"  
 android:textAllCaps="false"  
 android:background="@drawable/button"  
 android:text="@string/text\_button\_main"/>  
 <Button  
 android:layout\_width="150dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="10dp"  
 android:id="@+id/button\_main\_transition"  
 android:textColor="@color/white"  
 android:textAllCaps="false"  
 android:background="@drawable/button"  
 android:text="@string/text\_button\_authorization"/>  
  
  
</LinearLayout>

* activity\_authorization.xml

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout 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"  
 tools:context=".AuthorizationActivity"  
 android:orientation="vertical"  
 android:background="@color/Backround"  
 android:gravity="center\_horizontal">  
  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="180dp"  
 android:text="@string/text\_registr"  
 android:textSize="20dp"  
 android:textColor="@color/white"  
 />  
 <EditText  
 android:layout\_width="220dp"  
 android:layout\_height="50dp"  
 android:layout\_marginTop="20dp"  
 android:textColor="@color/white"  
 android:textColorHint="@color/grey"  
 android:id="@+id/user\_login"  
 android:hint="@string/text\_login"/>  
 <EditText  
 android:layout\_width="220dp"  
 android:layout\_height="50dp"  
 android:layout\_marginTop="20dp"  
 android:textColor="@color/white"  
 android:textColorHint="@color/grey"  
 android:id="@+id/user\_password"  
 android:hint="@string/text\_password"/>  
 <Button  
 android:layout\_width="200dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="30dp"  
 android:id="@+id/button\_authorization"  
 android:textColor="@color/white"  
 android:textAllCaps="false"  
 android:background="@drawable/button"  
 android:text="@string/text\_button\_authorization"/>  
 <Button  
 android:layout\_width="150dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="10dp"  
 android:id="@+id/button\_authorization\_transition"  
 android:textColor="@color/white"  
 android:textAllCaps="false"  
 android:background="@drawable/button"  
 android:text="@string/text\_button\_main"/>  
  
</LinearLayout>

* activity\_info.xml

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout 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"  
 tools:context=".InfoActivity"  
 android:orientation="vertical"  
 android:background="@color/blue\_2">  
 <ImageView  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:scaleType="centerCrop"  
 android:id="@+id/itemImage"/>  
 <TextView  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="TextView"  
 android:textSize="20dp"  
 android:layout\_marginVertical="10dp"  
 android:layout\_marginLeft="20dp"  
 android:id="@+id/itemTitle"  
 android:textStyle="bold"  
 />  
 <TextView  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="TextView"  
 android:layout\_marginVertical="10dp"  
 android:layout\_marginLeft="20dp"  
 android:id="@+id/itemDecs"/>  
 <TextView  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:gravity="right"  
 android:text="TextView"  
 android:layout\_marginVertical="10dp"  
 android:layout\_marginRight="20dp"  
 android:id="@+id/itemPrice"  
 android:textStyle="bold"/>  
 <Button  
 android:layout\_width="200dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_gravity="center"  
 android:id="@+id/itemBue"  
 android:text="Купить"/>  
  
</LinearLayout>

* activity\_products.xml

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout 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"  
 tools:context=".ProductsActivity"  
 android:orientation="vertical"  
 android:background="@color/Backround"  
 android:gravity="center\_horizontal">  
  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="@string/text\_products"  
 android:layout\_marginTop="50dp"  
 android:textSize="20dp"  
 android:textColor="@color/white"/>  
  
 <androidx.recyclerview.widget.RecyclerView  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:id="@+id/RecyclerView\_Products"  
 android:layout\_marginHorizontal="30dp"  
 android:layout\_marginVertical="20dp"  
 />  
  
</LinearLayout>

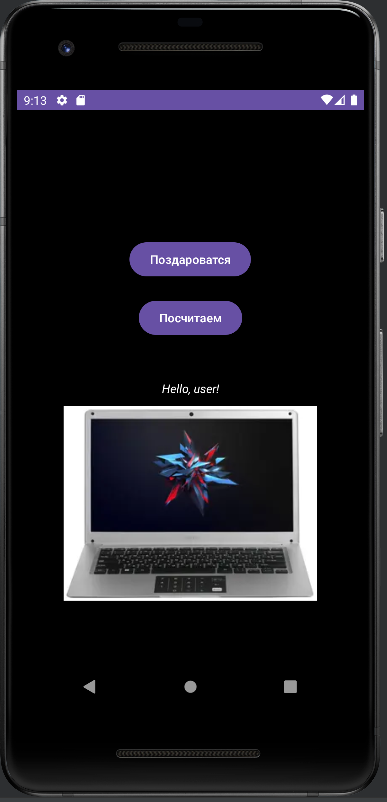
* item\_in\_list.xml

<?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="wrap\_content"  
 android:background="@color/blue\_2">  
 <ImageView  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:scaleType="centerCrop"  
 android:id="@+id/item\_list\_image"/>  
 <TextView  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="TextView"  
 android:textSize="20dp"  
 android:layout\_marginVertical="10dp"  
 android:layout\_marginLeft="20dp"  
 android:id="@+id/item\_list\_title"  
 android:textStyle="bold"  
 />  
 <TextView  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="TextView"  
 android:layout\_marginVertical="10dp"  
 android:layout\_marginLeft="20dp"  
 android:id="@+id/item\_list\_decs"/>  
 <TextView  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:gravity="right"  
 android:text="TextView"  
 android:layout\_marginVertical="10dp"  
 android:layout\_marginRight="20dp"  
 android:id="@+id/item\_list\_price"  
 android:textStyle="bold"/>  
 <Button  
 android:layout\_width="200dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_gravity="center"  
 android:id="@+id/item\_list\_info"  
 android:text="Посмотреть"/>  
  
</LinearLayout>

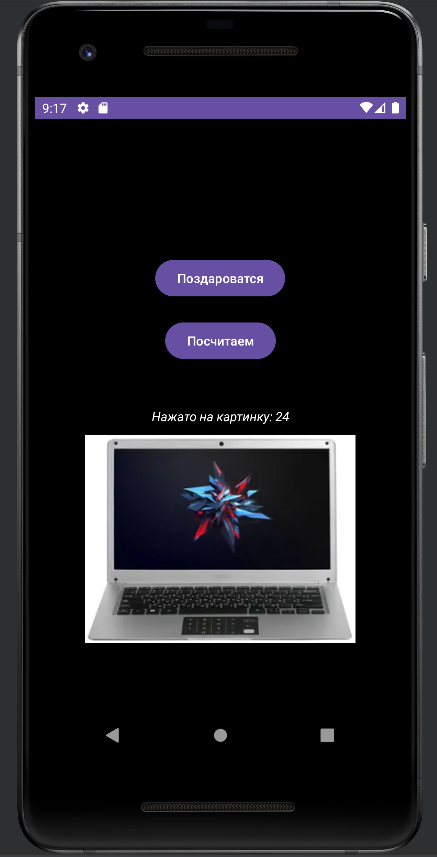
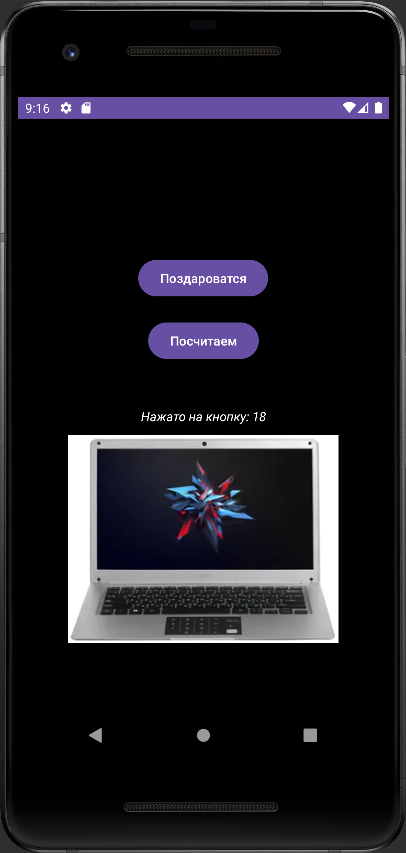
# Тема: «Практическая работа №5»

**Приложение “p2”:**

Данная программа при нажатии на кнопку “Поздороваться” программа здоровается с пользователем.



При нажатии на кнопку “Посчитаем ” и картинку программа считает количества кликов и каждого элемента.



Структура проекта состоит из страниц(-ы):



Используемые инструменты:

* Среда разработки Android Studio для устройства Android.

Тестовые ситуации: Отсутствуют.

Листинг программы:

* 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"  
 tools:context=".MainActivity"  
 android:background="@color/black">  
  
 <TextView  
 android:id="@+id/TextView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Hello World!"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 android:textStyle="italic"  
 android:textColor="@color/white"/>  
  
 <Button  
 android:id="@+id/hello\_button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="@string/text\_hello\_button"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.498"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.25" />  
  
 <Button  
 android:id="@+id/click\_button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="@string/text\_click\_button"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.363" />  
  
 <ImageView  
 android:id="@+id/click\_imageView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:src="@drawable/product1"  
 android:scaleType="centerCrop"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.495"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.818" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

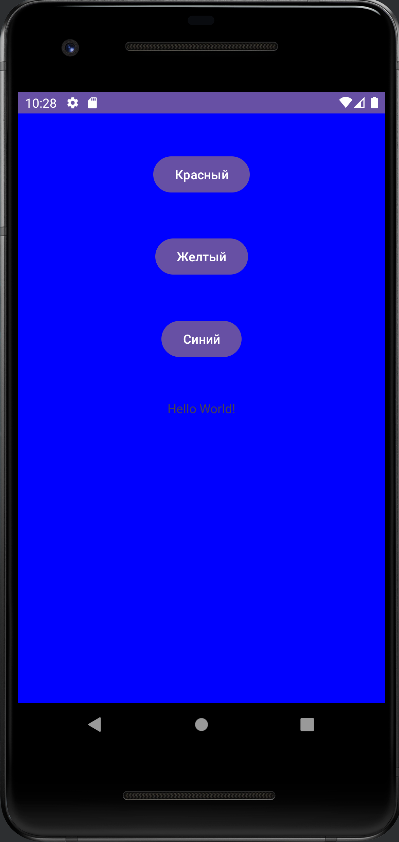
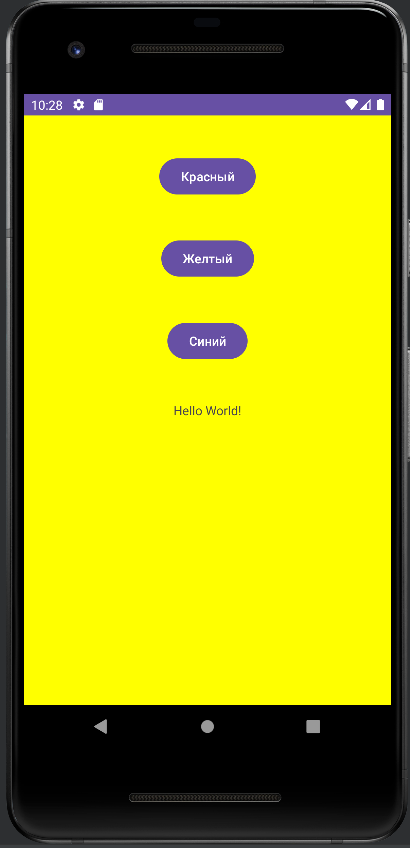
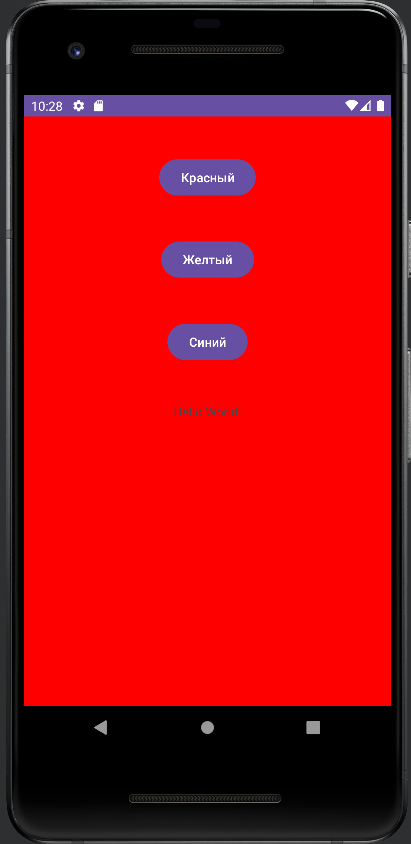
# Тема: «Практическая работа №6»

**Приложение “p3”:**

Приложение имеет иконку:



Приложение позволяет в зависимости от нажатой кнопки менять цвет фона.



Структура проекта состоит из страниц(-ы):



Используемые инструменты:

* Среда разработки Android Studio для устройства Android.

Тестовые ситуации: Отсутствуют.

Листинг программы:

* activity\_main.xml

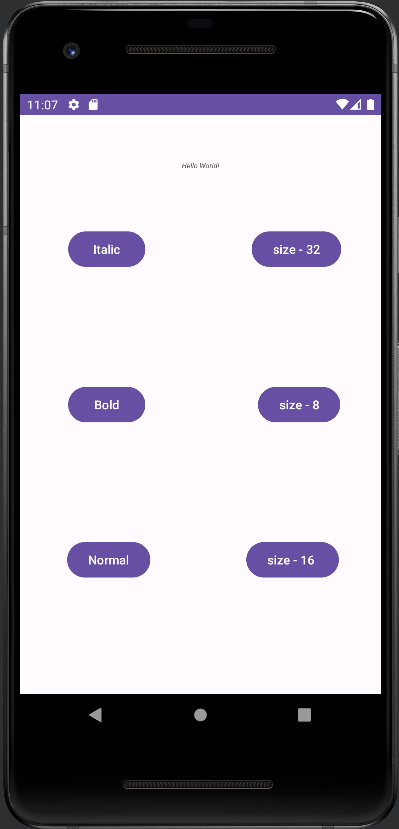
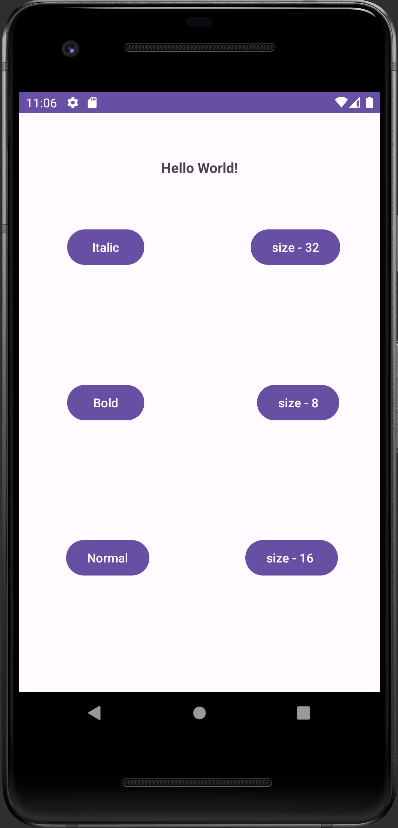
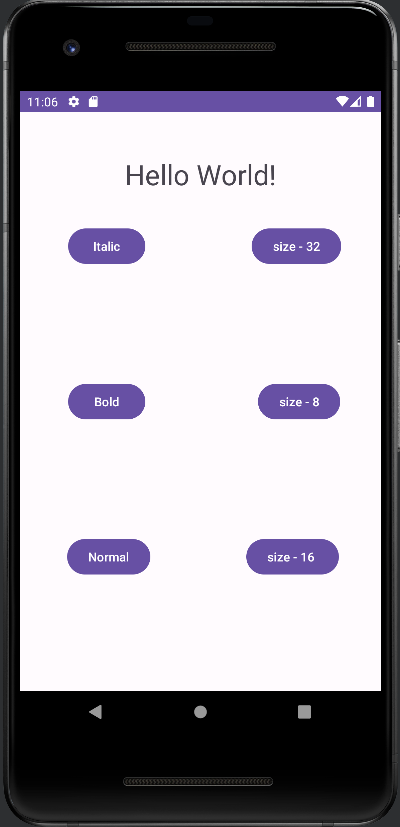
<?xml version="1.0" encoding="utf-8"?>  
<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity"  
 android:id="@+id/root\_layout"  
 android:background="@color/red">  
  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Hello World!"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
 <Button  
 android:id="@+id/button\_red"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:gravity="center\_horizontal|center\_vertical"  
 android:orientation="horizontal"  
 android:text="@string/text\_button\_red"  
 app:layout\_constraintBottom\_toTopOf="@+id/button\_yellow"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
 <Button  
 android:id="@+id/button\_yellow"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:gravity="center\_horizontal|center\_vertical"  
 android:orientation="horizontal"  
 android:text="@string/text\_button\_yellow"  
 app:layout\_constraintBottom\_toTopOf="@+id/button\_blue"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/button\_red" />  
  
 <Button  
 android:id="@+id/button\_blue"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:gravity="center\_horizontal|center\_vertical"  
 android:orientation="horizontal"  
 android:text="@string/text\_button\_blue"  
 app:layout\_constraintBottom\_toTopOf="@+id/textView"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/button\_yellow" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

**Приложение “p4”:**

Приложение имеет иконку:



Приложение позволяет менять стиль и размер текста.



Структура проекта состоит из страниц(-ы):



Используемые инструменты:

* Среда разработки Android Studio для устройства Android.

Тестовые ситуации: Отсутствуют.

Листинг программы:

* 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"  
 tools:context=".MainActivity"  
 tools:layout\_editor\_absoluteX="234dp"  
 tools:layout\_editor\_absoluteY="-2dp">  
  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/TextView"  
 android:text="Hello World!"  
 android:textStyle="normal"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.08" />  
  
 <Button  
 android:id="@+id/button\_size\_32"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="size - 32"  
 app:layout\_constraintBottom\_toTopOf="@+id/button\_size\_8"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.854"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
 <Button  
 android:id="@+id/button\_size\_16"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="size - 8 "  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.843"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/button\_size\_8" />  
  
 <Button  
 android:id="@+id/button\_size\_8"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="size - 16"  
 app:layout\_constraintBottom\_toTopOf="@+id/button\_size\_16"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.854"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/button\_size\_32" />  
  
 <Button  
 android:id="@+id/button\_italic"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Italic"  
 app:layout\_constraintBottom\_toTopOf="@+id/button\_bold"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.17"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
 <Button  
 android:id="@+id/button\_bold"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Bold"  
 app:layout\_constraintBottom\_toTopOf="@+id/button\_normal"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.17"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/button\_italic" />  
  
 <Button  
 android:id="@+id/button\_normal"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Normal"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.17"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/button\_bold" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

# Тема: «Практическая работа №7, 8»

**Приложение “p5”:**

# Тема: «Практическая работа №9»

**Приложение “p6”:**

Положение представляет из себя один экран с анимированными объектами.



Структура проекта состоит из страниц(-ы):



Используемые инструменты:

* Среда разработки Android Studio для устройства Android.

Тестовые ситуации: Отсутствуют.

Листинг программы:

* 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"  
 tools:context=".MainActivity">  
  
 <ImageView  
 android:id="@+id/sky"  
 android:layout\_width="0dp"  
 android:layout\_height="0dp"  
 android:contentDescription="@string/sky"  
 android:src="@drawable/sky"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.0"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.0" />  
  
 <ImageView  
 android:id="@+id/sun"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_centerHorizontal="true"  
 android:contentDescription="@string/sun"  
 android:scaleType="fitCenter"  
 android:src="@drawable/sun"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
 <ImageView  
 android:id="@+id/grass"  
 android:layout\_width="0dp"  
 android:layout\_height="150dp"  
 android:contentDescription="@string/grass"  
 android:src="@drawable/grass"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent" />  
 <ImageView  
 android:id="@+id/clock"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_alignParentRight="true"  
 android:layout\_alignParentBottom="true"  
 android:layout\_marginEnd="8dp"  
 android:layout\_marginRight="8dp"  
 android:layout\_marginBottom="16dp"  
 android:contentDescription="@string/clock"  
 android:padding="10dp"  
 android:src="@drawable/clock"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"/>  
  
 <ImageView  
 android:id="@+id/hour\_hand"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_alignParentRight="true"  
 android:layout\_alignParentBottom="true"  
 android:layout\_marginEnd="8dp"  
 android:contentDescription="@string/clock"  
 android:padding="10dp"  
 android:src="@drawable/hour\_hand"  
 app:layout\_constraintEnd\_toEndOf="@+id/sky"  
 app:layout\_constraintTop\_toTopOf="@+id/clock" />  
  
 <ImageView  
 android:id="@+id/imageView"  
 android:layout\_width="300dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginBottom="36dp"  
 android:src="@drawable/car"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.495"  
 app:layout\_constraintStart\_toStartOf="parent" />  
  
 <ImageView  
 android:id="@+id/wheel1"  
 android:layout\_width="45dp"  
 android:layout\_height="45dp"  
 android:layout\_marginStart="84dp"  
 android:layout\_marginTop="176dp"  
 android:src="@drawable/wheel"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="@+id/imageView"  
 app:layout\_constraintVertical\_bias="0.006" />  
  
 <ImageView  
 android:id="@+id/wheel2"  
 android:layout\_width="45dp"  
 android:layout\_height="45dp"  
 android:layout\_marginTop="176dp"  
 android:layout\_marginEnd="104dp"  
 android:src="@drawable/wheel"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toTopOf="@+id/imageView"  
 app:layout\_constraintVertical\_bias="0.006" />  
  
 <ImageView  
 android:layout\_width="150dp"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/could1"  
 android:src="@drawable/cloud"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.003"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.072" />  
  
 <ImageView  
 android:layout\_width="150dp"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/could2"  
 android:src="@drawable/cloud"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.846"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.125" />  
  
 <ImageView  
 android:layout\_width="150dp"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/could3"  
 android:src="@drawable/cloud"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.345"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.33" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>