*Rješenje zadaće*

<**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:id="@+id/relativeLayout"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity"  
 tools:layout\_editor\_absoluteX="0dp"  
 tools:layout\_editor\_absoluteY="81dp"**>  
  
 <**TextView  
 android:id="@+id/display\_count"  
 android:layout\_width="110dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginStart="136dp"  
 android:layout\_marginTop="8dp"  
 android:layout\_marginRight="150dp"  
 android:layout\_marginBottom="8dp"  
 android:contextClickable="false"  
 android:gravity="center"  
 android:text="0"  
 android:textSize="100dp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.501"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintRight\_toRightOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.651"** />  
  
 <**Button  
 android:id="@+id/reset"  
 android:layout\_width="344dp"  
 android:layout\_height="50dp"  
 android:layout\_marginStart="20dp"  
 android:layout\_marginTop="8dp"  
 android:layout\_marginRight="8dp"  
 android:layout\_marginBottom="138dp"  
 android:onClick="reset"  
 android:text="Reset"  
 android:textSize="18sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.0"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintRight\_toRightOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/btnChangeImage"  
 app:layout\_constraintVertical\_bias="0.805"** />  
  
 <**ImageView  
 android:id="@+id/imageView1"  
 android:layout\_width="360dp"  
 android:layout\_height="180sp"  
 android:layout\_gravity="center\_horizontal"  
 android:layout\_marginStart="45dp"  
 android:layout\_marginEnd="45dp"  
 android:src="@drawable/jesen"  
 app:layout\_constraintBottom\_toTopOf="@+id/text"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"** />  
  
  
 <**TextView  
 android:id="@+id/text"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_gravity="center"  
 android:layout\_marginStart="7dp"  
 android:layout\_marginTop="253dp"  
 android:layout\_marginBottom="41dp"  
 android:text="@string/jesen"  
 android:textAlignment="gravity"  
 android:textColor="@color/purple\_500"  
 android:textSize="20sp"  
 android:textStyle="bold"  
 app:layout\_constraintBottom\_toTopOf="@+id/btnChangeImage"  
 app:layout\_constraintStart\_toStartOf="@+id/btnChangeImage"  
 app:layout\_constraintTop\_toTopOf="parent"** />  
  
 <**Button  
 android:id="@+id/btnChangeImage"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_gravity="center\_horizontal"  
 android:layout\_marginStart="111dp"  
 android:layout\_marginBottom="176dp"  
 android:shadowRadius="20"  
  
 android:text="Change Image"  
 app:layout\_constraintBottom\_toTopOf="@+id/reset"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/text"** />  
  
</**androidx.constraintlayout.widget.ConstraintLayout**>

**package** com.example.myapplication;  
**import** android.os.Bundle;  
**import** android.view.View;  
**import** androidx.appcompat.app.AppCompatActivity;  
**import** android.widget.Button;  
**import** android.widget.ImageView;  
**import** android.widget.TextView;  
  
  
  
**public class** MainActivity **extends** AppCompatActivity {  
 **int count** = 0;  
  
 Button **b1**;  
 ImageView **iv**;  
 TextView **tv**;  
  
  
  
 **int name**[] = {R.string.***zima***, R.string.***proljece***, R.string.***ljeto***, R.string.***jesen*** };  
 **int images**[] = {R.drawable.***zima***, R.drawable.***proljece***, R.drawable.***ljeto***, R.drawable.***jesen***};  
 **int i** = 0;  
  
  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
  
 **iv** = (ImageView) findViewById(R.id.***imageView1***);  
 **tv** = (TextView) findViewById(R.id.***text***);  
 **b1** = (Button) findViewById(R.id.***btnChangeImage***);  
  
  
 **b1**.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View view) {  
 **iv**.setImageResource(**images**[**i**]);  
 **tv**.setText(**name**[**i**]);  
 **i**++;  
  
 **if** (**i** == 4) **i** = 0;  
 **count**++;  
 display(**count**);  
 }  
  
 });  
 }  
 **public void** display(**int** count) {  
 TextView brojacTextView = (TextView) findViewById(R.id.***display\_count***);  
 brojacTextView.setText(**""** + count);  
 }  
  
 */\*public void increment(View view){  
 count++;  
 TextView brojacTextView = (TextView) findViewById(R.id.display\_count);  
 brojacTextView.setText(""+ count);  
 display(count);  
 }  
\*/* **public void** reset(View view){  
 **count**=0;  
 display(**count**);  
  
 }  
  
}

*APLIKACIJA 1*

*<?***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"**>  
  
  
 <**Button  
 android:id="@+id/plavibutton"  
 android:layout\_width="253dp"  
 android:layout\_height="56dp"  
 android:layout\_marginStart="60dp"  
 android:layout\_marginTop="150dp"  
 android:layout\_marginEnd="60dp"  
  
 android:onClick="toDo"  
 android:text="Plavi"  
 android:background="#0000FF"  
 android:visibility="visible"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/button2"** />  
  
 <**Button  
 android:id="@+id/button2"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginStart="60dp"  
 android:layout\_marginTop="100dp"  
 android:layout\_marginEnd="60dp"  
  
 android:onClick="toDo"  
 android:radius="5dp"  
 android:text="Rosa"  
 app:backgroundTint="#F700FF"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.0"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"** />  
  
  
</**androidx.constraintlayout.widget.ConstraintLayout**>

*Napomena: navedeni su korijenski direktoriji na početku datoteke*

**android:** atribut koji dolazi iz samog Android SDK-a

**app**: atribut se koristi ako koristite biblioteku podrške

**package** com.example.myapplication;  
  
**import** androidx.appcompat.app.AppCompatActivity;  
**import** android.os.Bundle;  
**import** android.view.View;  
**import** android.widget.Button;  
**import** android.widget.Toast;  
  
  
  
**public class** MainActivity **extends** AppCompatActivity {  
 Button **btnPlavo**, **btnPinkPanter**;  
  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
 **btnPlavo** = (Button) findViewById(R.id.***plavibutton***);  
 **btnPinkPanter** = (Button) findViewById(R.id.***button2***);  
 }  
  
  
 **public void** toDo(View v) {  
 **if** (v.equals(**btnPlavo**)) {  
 v.setVisibility(View.***INVISIBLE***);  
 }  
  
 **if** (v.equals(**btnPinkPanter**))  
 Toast.*makeText*(getApplicationContext(), **"bla bla…"**, Toast.***LENGTH\_SHORT***).show();  
 }  
 }

2.način

**package** com.example.myapplication;  
  
**import** androidx.appcompat.app.AppCompatActivity;  
**import** android.os.Bundle;  
**import** android.view.View;  
**import** android.widget.Button;  
**import** android.widget.Toast;  
  
**public class** MainActivity **extends** AppCompatActivity {  
 Button **btnPlavo**, **btnPinkPanter**;  
  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
 **btnPlavo** = (Button) findViewById(R.id.***plavibutton***);  
 **btnPinkPanter** = (Button) findViewById(R.id.***button2***);  
   
 **btnPlavo**.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View view) {  
 view.setVisibility(View.***INVISIBLE***);  
 }  
 });  
  
 **btnPinkPanter**.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View view) {  
 Toast.*makeText*(MainActivity.**this**, **"Button clicked"**, Toast.***LENGTH\_SHORT***).show();  
 }  
 });  
  
  
 }  
}

Pojašnjenje koda:

U aktivnosti možete dobiti elemente definirane u datoteci izgleda putem metode **findViewById().**

Ovdje R.id.plavibutton dobiva instancu gumba. Ova vrijednost je upravo proslijeđena atributu android:id u datoteci activity\_main.xml. Ono što metoda findViewById() vraća je View objekt, koji se smanjuje na Button Object. Nakon što se dobije instanca gumba, registrira se slušatelj(Listener) za gumb pozivanjem metode setOnClickListener() Kada se klikne na gumb, izvršit će se metoda onClick() u listeneru. Stoga je funkcija plutajućih poruka Toast naravno napisana metodom onClick(). Korištenje Toast poruke u androidu je vrlo jednostavno. Objekt Toast se stvara putem statičke metode makeText(), a zatim pozivom show() prikazuje se poruka Toast. Treba napomenuti da metoda makeText() mora proći tri parametra. Prvi parametar je **Kontekst**, koji je potreban za Toast. Budući da je sama aktivnost objekt konteksta, ovdje možete izravno proslijediti MainActivity.this. Drugi parametar je tekstualni sadržaj prikazan porukom Toast, a treći parametar **Za prikazano trajanje** postoje dvije ugrađene konstante koje možete izabrati između Toast.LENGTH\_SHORT i Toast.LENGTH\_LONG.

APLIKACIJA 3 – SLUČAJNI BROJ – RANDOM NUMBER

*<?***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"**>  
  
 <**Button  
 android:id="@+id/generate"  
 android:layout\_width="248dp"  
 android:layout\_height="84dp"  
 android:text="Random number"  
 android:textSize="18sp"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.0"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"** />  
  
 <**TextView  
 android:id="@+id/randomNumber"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="200dp"  
 android:layout\_marginStart="50dp"  
 android:layout\_marginTop="100dp"  
 android:layout\_marginEnd="50dp"  
 android:textSize="45sp"  
 android:textStyle="bold"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"** />  
  
</**androidx.constraintlayout.widget.ConstraintLayout**>

**import** androidx.appcompat.app.AppCompatActivity;  
**import** android.os.Bundle;  
**import** android.view.View;  
**import** android.widget.Button;  
**import** android.widget.TextView;  
**import** java.util.Random;  
**public class** MainActivity **extends** AppCompatActivity {  
  
  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
 **final** Random numRandom = **new** Random();  
  
 Button buttonRandom = (Button)findViewById(R.id.***generate***);  
 TextView randomNumber;  
  
 randomNumber = (TextView) findViewById(R.id.***randomNumber***);  
  
 buttonRandom.setOnClickListener(**new** View.OnClickListener(){  
 @Override  
 **public void** onClick(View v) {  
 randomNumber.setText(String.*valueOf*(numRandom.nextInt(1000)));  
 }  
 });  
 }  
}

APLIKACIJA 4 – USPOREĐIVANJE DVA SLUČAJNA BROJA

*<?***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"**>  
  
 <**TextView  
 android:id="@+id/prvi"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="TextView"  
 android:textSize="60px"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.203"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.293"** />  
  
 <**TextView  
 android:id="@+id/drugi"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="TextView"  
 android:textSize="60px"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.75"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.293"** />  
  
 <**TextView  
 android:id="@+id/znak"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="TextView"  
 android:textSize="60px"  
 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="0.293"** />  
  
</**androidx.constraintlayout.widget.ConstraintLayout**>

Formula for range (max – min) + 1) + min

**package** com.example.myapplication;  
**import static** java.lang.String.*valueOf*;  
  
**import** androidx.appcompat.app.AppCompatActivity;  
  
**import** android.os.Bundle;  
**import** android.widget.TextView;  
  
**import** java.util.Random;  
  
**public class** MainActivity **extends** AppCompatActivity {  
  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
 TextView prv;  
 TextView drug;  
 TextView zna;  
 prv=findViewById(R.id.***prvi***);  
 drug=findViewById(R.id.***drugi***);  
 zna=findViewById(R.id.***znak***);  
  
 **int** r1 = **new** Random().nextInt((1000 - 2) + 1) + 1;  
 **int** r2 = **new** Random().nextInt((1000 - 2) + 1) + 1;  
 **if**(r1>r2){  
 prv.setText(*valueOf*(r1));  
 drug.setText(*valueOf*(r2));  
 zna.setText(**">"**);  
 }  
 **else if**(r1<r2){  
 prv.setText(*valueOf*(r1));  
 drug.setText(*valueOf*(r2));  
 zna.setText(**"<"**);  
 }  
 **else if**(r1==r2){  
 prv.setText(*valueOf*(r1));  
 drug.setText(*valueOf*(r2));  
 zna.setText(**"="**);  
 }  
 }  
}

APLIKACIJA 5: Izrada liste

*<?***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"**>  
  
 <**TextView  
 android:id="@+id/twIme"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginStart="16dp"  
 android:layout\_marginTop="120dp"  
 android:layout\_marginEnd="7dp"  
 android:layout\_marginBottom="58dp"  
 android:textSize="20dp"  
 android:textStyle="bold"  
 android:visibility="visible"  
 app:layout\_constraintBottom\_toTopOf="@+id/btnNext"  
 app:layout\_constraintEnd\_toEndOf="@+id/btnNext"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/etUnos"** />  
  
 <**EditText  
 android:id="@+id/etUnos"  
 android:layout\_width="203dp"  
 android:layout\_height="58dp"  
 android:layout\_marginStart="50dp"  
 android:layout\_marginTop="24dp"  
 android:ems="10"  
 android:inputType="textPersonName"  
 android:text=""  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"** />  
  
 <**Button  
 android:id="@+id/btnUnos"  
 android:layout\_width="88dp"  
 android:layout\_height="48dp"  
 android:layout\_marginStart="1dp"  
 android:layout\_marginTop="34dp"  
 android:text="Unesi"  
 android:visibility="visible"  
 app:layout\_constraintStart\_toEndOf="@+id/etUnos"  
 app:layout\_constraintTop\_toTopOf="parent"** />  
  
 <**Button  
 android:id="@+id/btnNext"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginStart="161dp"  
 android:layout\_marginTop="200dp"  
 android:layout\_marginEnd="162dp"  
 android:text="Dalje"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/etUnos"** />  
  
</**androidx.constraintlayout.widget.ConstraintLayout**>

**package** com.example.myapplication;  
**import** androidx.appcompat.app.AppCompatActivity;  
**import** android.os.Bundle;  
**import** android.view.View;  
**import** android.widget.Button;  
**import** android.widget.EditText;  
**import** android.widget.TextView;  
  
**import** java.util.ArrayList;  
**import** java.util.List;  
  
**public class** MainActivity **extends** AppCompatActivity {  
  
 List **list**;  
 Button **btnUnos**;  
 Button **btnNext**;  
 EditText **etUnos**;  
 TextView **twIme**;  
  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
  
 **btnUnos** = (Button) findViewById(R.id.***btnUnos***);  
 **btnNext** = (Button) findViewById(R.id.***btnNext***);  
 **etUnos** = (EditText) findViewById(R.id.***etUnos***);  
 **twIme** = (TextView) findViewById(R.id.***twIme***);  
  
 **list** = **new** ArrayList<String>();  
  
 **btnNext**.setEnabled(**false**);  
  
 **btnUnos**.setOnClickListener(**new** View.OnClickListener() {  
 **int i** = 0;  
 @Override  
 **public void** onClick(View view) {  
 **if**(**i** < 10) {  
 **list**.add(**etUnos**.getText().toString());  
 **etUnos**.setText(**""**);  
 }  
 **i**++;  
 **if**(**i** == 10) {  
 **btnUnos**.setEnabled(**false**);  
 **etUnos**.setFocusable(**false**);  
 **btnNext**.setEnabled(**true**);  
 **twIme**.setText(**list**.get(0).toString());  
 }  
 }  
 });  
  
 **btnNext**.setOnClickListener(**new** View.OnClickListener() {  
 **int i** = 1;  
 @Override  
 **public void** onClick(View view) {  
 **twIme**.setText(**list**.get(**i**).toString());  
 **i**++;  
 **if**(**i** > 9) {  
 **i** = 0;  
 }  
 }  
 });  
 }  
}

APLIKACIJA 6 – Upiši broj i nađi prethodnike i sljedbenike

*<?***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"**>  
  
 <**TextView  
 android:id="@+id/textView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Broj:"  
 android:textSize="24sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.212"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintRight\_toRightOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.117"** />  
  
 <**EditText  
 android:id="@+id/editTextTextPersonName"  
 android:layout\_width="227dp"  
 android:layout\_height="51dp"  
 android:ems="10"  
 android:hint="Broj"  
 android:inputType="phone"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.305"  
 app:layout\_constraintStart\_toEndOf="@+id/textView"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.107"** />  
  
 <**TextView  
 android:id="@+id/textView2"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="TextView"  
 android:textSize="24sp"  
 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"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginStart="16dp"  
 android:text="Predecessor"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toStartOf="@+id/button2"  
 app:layout\_constraintHorizontal\_bias="0.0"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.619"** />  
  
 <**Button  
 android:id="@+id/button2"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginEnd="24dp"  
 android:text="Successor"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.619"** />  
  
 <**Button  
 android:id="@+id/button3"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Add"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toStartOf="@+id/button2"  
 app:layout\_constraintHorizontal\_bias="0.421"  
 app:layout\_constraintStart\_toEndOf="@+id/button"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.619"** />  
  
</**androidx.constraintlayout.widget.ConstraintLayout**>

**package** com.example.myapplication;  
**import** androidx.appcompat.app.AppCompatActivity;  
  
**import** android.os.Bundle;  
**import** android.view.View;  
**import** android.widget.EditText;  
**import** android.widget.TextView;  
**import** android.widget.Button;  
  
**public class** MainActivity **extends** AppCompatActivity {  
 TextView **tekstBroj**;  
 EditText **unesiBroj**;  
 Button **p**,**a**,**s**;  
 **int brojac**=0;  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
 **tekstBroj**=(TextView) findViewById(R.id.***textView2***);  
 **unesiBroj**=(EditText) findViewById(R.id.***editTextTextPersonName***);  
 **a**=(Button)findViewById(R.id.***button3***);  
 **p**=(Button)findViewById(R.id.***button***);  
 **s**=(Button)findViewById(R.id.***button2***);  
  
 **p**.setOnClickListener(**new** View.OnClickListener(){  
 **int prevB**;  
 **int temp**;  
 @Override  
 **public void** onClick(View view) {  
 **int** prevB = Integer.*parseInt*(**unesiBroj**.getText().toString());  
 **brojac**--;  
 prevB=prevB+**brojac**;  
 **tekstBroj**.setText(String.*valueOf*(prevB));  
 }  
 });  
  
 **a**.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View view) {  
 **int** num1 = Integer.*parseInt*(**unesiBroj**.getText().toString());  
 **tekstBroj**.setText(String.*valueOf*(num1));  
 }  
 });  
  
 **s**.setOnClickListener(**new** View.OnClickListener(){  
 @Override  
 **public void** onClick(View view) {  
 **int** nextB = Integer.*parseInt*(**unesiBroj**.getText().toString());  
 **brojac**++;  
 nextB=nextB+**brojac**;  
 **tekstBroj**.setText(String.*valueOf*(nextB));  
 }  
 });  
 }  
}

APLIKACIJA 7: Mijenjati boje ekrana putem radio gumba ili checkboxa.

Verzija Igor

*<?***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:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:layout\_centerInParent="true"  
 android:scaleType="centerCrop"  
 android:id="@+id/view"  
 android:background="@color/white"** />  
  
 <**CheckBox  
 android:id="@+id/checkBox4"  
 android:layout\_width="199dp"  
 android:layout\_height="0dp"  
 android:layout\_marginBottom="295dp"  
 android:background="@color/blue"  
 android:text="PLAVA"  
 android:textAlignment="center"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/checkBox3"** />  
  
 <**CheckBox  
 android:id="@+id/checkBox3"  
 android:layout\_width="199dp"  
 android:layout\_height="0dp"  
 android:layout\_marginBottom="47dp"  
 android:background="@color/green"  
 android:text="ZELENA"  
 android:textAlignment="center"  
 app:layout\_constraintBottom\_toTopOf="@+id/checkBox4"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/checkBox"** />  
  
 <**CheckBox  
 android:id="@+id/checkBox"  
 android:layout\_width="199dp"  
 android:layout\_height="0dp"  
 android:layout\_marginTop="193dp"  
 android:layout\_marginBottom="43dp"  
 android:background="@color/yellow"  
 android:text="ŽUTA"  
 android:textAlignment="center"  
 app:layout\_constraintBottom\_toTopOf="@+id/checkBox3"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"** />  
  
</**androidx.constraintlayout.widget.ConstraintLayout**>

**package** com.example.myapplication;  
**import static** android.graphics.Color.\*;  
  
**import** androidx.appcompat.app.AppCompatActivity;  
**import** androidx.constraintlayout.widget.ConstraintLayout;  
**import** android.os.Bundle;  
**import** android.view.View;  
**import** android.widget.CheckBox;  
**import** android.widget.ImageView;  
  
  
**public class** MainActivity **extends** AppCompatActivity {  
  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
  
 CheckBox cbYellow,cbGreen,cbBlue;  
 ConstraintLayout par;  
 ImageView iv;  
  
 iv=(ImageView) findViewById(R.id.***view***);  
 cbYellow=(CheckBox) findViewById(R.id.***checkBox***);  
 cbBlue=(CheckBox) findViewById(R.id.***checkBox4***);  
 cbGreen=(CheckBox) findViewById(R.id.***checkBox3***);  
  
 cbYellow.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View view) {  
 iv.setBackgroundColor(*parseColor*(**"#FFFF00"**));  
  
 }  
 });  
  
 cbBlue.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View view) {  
 iv.setBackgroundColor(*parseColor*(**"#0000CC"**));  
 }  
 });  
  
 cbGreen.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View view) {  
 iv.setBackgroundColor(*parseColor*(**"#00CC00"**));  
 }  
 });  
 }  
}

*<?***xml version="1.0" encoding="utf-8"***?>*<**resources**>  
  
 <**color name="black"**>#FF000000</**color**>  
 <**color name="white"**>#FFFFFFFF</**color**>  
 <**color name="orange"**>#FF9800</**color**>  
 <**color name="yellow"**>#FFFF00</**color**>  
 <**color name="green"**>#00CC00</**color**>  
 <**color name="blue"**>#0000CC</**color**>  
</**resources**>

*Verzija mentor*

*<?***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="fill\_parent"  
 android:layout\_height="fill\_parent"  
 android:id="@+id/LinearLayout"  
 tools:context=".MainActivity"**>  
  
 <**RadioGroup  
 android:id="@+id/Group1"  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="vertical"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"**>  
  
 <**RadioButton  
 android:id="@+id/radio\_red"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Red"** />  
  
 <**RadioButton  
 android:id="@+id/radio\_yellow"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Yellow"** />  
  
 <**RadioButton  
 android:id="@+id/radio\_blue"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Blue"** />  
  
 <**RadioButton  
 android:id="@+id/radio\_green"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Green"** />  
  
 <**CheckBox  
 android:id="@+id/check\_red"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Red"  
 android:onClick="checkboxCheck"** />  
  
 <**CheckBox  
 android:id="@+id/check\_yellow"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Yellow"  
 android:onClick="checkboxCheck"** />  
  
 <**CheckBox  
 android:id="@+id/check\_blue"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Blue"  
 android:onClick="checkboxCheck"** />  
  
 <**CheckBox  
 android:id="@+id/check\_green"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Green"  
 android:onClick="checkboxCheck"** />  
 </**RadioGroup**>  
  
</**LinearLayout**>

**package** com.example.myapplication;  
  
  
**import** androidx.appcompat.app.AppCompatActivity;  
  
**import** android.graphics.Color;  
**import** android.os.Bundle;  
**import** android.view.View;  
**import** android.widget.CheckBox;  
**import** android.widget.LinearLayout;  
**import** android.widget.RadioButton;  
  
**public class** MainActivity **extends** AppCompatActivity {  
  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
  
 LinearLayout ll = (LinearLayout) findViewById(R.id.***LinearLayout***);  
 RadioButton radio\_red = (RadioButton) findViewById(R.id.***radio\_red***);  
 RadioButton radio\_yellow = (RadioButton) findViewById(R.id.***radio\_yellow***);  
 RadioButton radio\_blue = (RadioButton) findViewById(R.id.***radio\_blue***);  
 RadioButton radio\_green = (RadioButton) findViewById(R.id.***radio\_green***);  
  
 radio\_red.setOnClickListener(**new** View.OnClickListener() {  
 **public void** onClick(View view) {  
 ll.setBackgroundColor(Color.***RED***);  
 }  
 });  
 radio\_yellow.setOnClickListener(**new** View.OnClickListener() {  
 **public void** onClick(View view) {  
 ll.setBackgroundColor(Color.***YELLOW***);  
 }  
 });  
 radio\_blue.setOnClickListener(**new** View.OnClickListener() {  
 **public void** onClick(View view) {  
 ll.setBackgroundColor(Color.***BLUE***);  
 }  
 });  
 radio\_green.setOnClickListener(**new** View.OnClickListener() {  
 **public void** onClick(View view) {  
 ll.setBackgroundColor(Color.***GREEN***);  
 }  
 });  
 }  
 **public void** checkboxCheck(View view) {  
  
 LinearLayout ll = (LinearLayout) findViewById(R.id.***LinearLayout***);  
 CheckBox check\_red = (CheckBox) findViewById(R.id.***check\_red***);  
 CheckBox check\_yellow = (CheckBox) findViewById(R.id.***check\_yellow***);  
 CheckBox check\_blue = (CheckBox) findViewById(R.id.***check\_blue***);  
 CheckBox check\_green = (CheckBox) findViewById(R.id.***check\_green***);  
  
 **boolean** checked = ((CheckBox) view).isChecked();  
 **switch**(view.getId()) {  
 **case** R.id.***check\_red***:  
 **if** (checked) {  
 ll.setBackgroundColor(Color.***RED***);  
 check\_yellow.setChecked(**false**);  
 check\_blue.setChecked(**false**);  
 check\_green.setChecked(**false**);  
 }  
 **break**;  
 **case** R.id.***check\_yellow***:  
 **if** (checked) {  
 ll.setBackgroundColor(Color.***YELLOW***);  
 check\_red.setChecked(**false**);  
 check\_blue.setChecked(**false**);  
 check\_green.setChecked(**false**);  
 }  
 **break**;  
 **case** R.id.***check\_blue***:  
 **if** (checked) {  
 ll.setBackgroundColor(Color.***BLUE***);  
 check\_red.setChecked(**false**);  
 check\_yellow.setChecked(**false**);  
 check\_green.setChecked(**false**);  
 }  
 **break**;  
 **case** R.id.***check\_green***:  
 **if** (checked) {  
 ll.setBackgroundColor(Color.***GREEN***);  
 check\_red.setChecked(**false**);  
 check\_yellow.setChecked(**false**);  
 check\_blue.setChecked(**false**);  
 }  
 **break**;  
 }  
 }  
}

APLIKACIJA 8: Umetnuti 3 slike voća i kad se poslože 3 iste slike dodati bod inače ništa.

# SENZORI

Aplikacija 1 Shake\_me

**package** com.example.myapplication;  
**import** android.app.Activity;  
**import** android.graphics.Color;  
**import** android.hardware.Sensor;  
**import** android.hardware.SensorEvent;  
**import** android.hardware.SensorEventListener;  
**import** android.hardware.SensorManager;  
**import** android.os.Bundle;  
  
**import** android.widget.Toast;  
**import** android.view.View;  
**public class** MainActivity **extends** Activity **implements** SensorEventListener{  
 **private** SensorManager **sensorManager**;  
 **private boolean isColor** = **false**;  
 **private** View **view**;  
 **private long lastUpdate**;  
  
 @Override  
 **public void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
 **view** = findViewById(R.id.***textView***);  
 **view**.setBackgroundColor(Color.***GREEN***);  
  
 **sensorManager** = (SensorManager) getSystemService(***SENSOR\_SERVICE***);  
 **lastUpdate** = System.*currentTimeMillis*();  
 }  
  
 @Override  
 **public void** onAccuracyChanged(Sensor sensor, **int** accuracy) {}  
 @Override  
 **public void** onSensorChanged(SensorEvent event) {  
 **if** (event.**sensor**.getType() == Sensor.***TYPE\_ACCELEROMETER***) {  
 getAccelerometer(event);  
 }  
  
 }  
  
 **private void** getAccelerometer(SensorEvent event) {  
 **float**[] values = event.**values**;  
 *// Movement* **float** x = values[0];  
 **float** y = values[1];  
 **float** z = values[2];  
  
 **float** aSquareRoot = (x \* x + y \* y + z \* z)  
 / (SensorManager.***GRAVITY\_EARTH*** \* SensorManager.***GRAVITY\_EARTH***);  
  
 **long** actualTime = System.*currentTimeMillis*();  
 Toast.*makeText*(getApplicationContext(),String.*valueOf*(aSquareRoot)+**" "**+  
 SensorManager.***GRAVITY\_EARTH***,Toast.***LENGTH\_SHORT***).show();  
  
 **if** (aSquareRoot >= 2) *//it will be executed if you shuffle* {  
  
 **if** (actualTime - **lastUpdate** < 200) {  
 **return**;  
 }  
 **lastUpdate** = actualTime;*//updating lastUpdate for next shuffle* **if** (**isColor**) {  
 **view**.setBackgroundColor(Color.***GREEN***);  
  
 } **else** {  
 **view**.setBackgroundColor(Color.***RED***);  
 }  
 **isColor** = !**isColor**;  
 }  
 }  
  
 @Override  
 **protected void** onResume() {  
 **super**.onResume();  
  
 **sensorManager**.registerListener(**this**,**sensorManager**.getDefaultSensor(Sensor.***TYPE\_ACCELEROMETER***),  
 SensorManager.***SENSOR\_DELAY\_NORMAL***);  
 }  
  
 @Override  
 **protected void** onPause() {  
  
 **super**.onPause();  
 **sensorManager**.unregisterListener(**this**);  
 }  
}

APLIKACIJA 2 KOMPAS

*<?***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:screenOrientation="portrait"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity"**>  
  
 <**TextView  
 android:id="@+id/txtvw"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text=""  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintRight\_toRightOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"** />  
  
</**androidx.constraintlayout.widget.ConstraintLayout**>

package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Context;

import android.hardware.Sensor;

import android.hardware.SensorEvent;

import android.hardware.SensorEventListener;

import android.hardware.SensorManager;

import android.os.Bundle;

import android.widget.TextView;

public class MainActivity extends AppCompatActivity {

private SensorManager sensorManager;

private TextView txtvw;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

txtvw = findViewById(R.id.txtvw);

sensorManager = (SensorManager) getSystemService(Context.SENSOR\_SERVICE);

Sensor sensor = sensorManager.getDefaultSensor(Sensor.TYPE\_MAGNETIC\_FIELD);

sensorManager.registerListener(listener, sensor, SensorManager.SENSOR\_DELAY\_NORMAL);

}

@Override

protected void onDestroy() {

super.onDestroy();

if (sensorManager != null) {

sensorManager.unregisterListener(listener);

}

}

private SensorEventListener listener = new SensorEventListener() {

@Override

public void onSensorChanged(SensorEvent event) {

float xValue = event.values[0];

float yValue = event.values[1];

float zValue = event.values[2];

float rot = (float) (180/Math.PI\*Math.copySign(Math.acos(xValue/Math.sqrt(Math.pow(xValue, 2)+Math.pow(yValue, 2))), yValue));

// float rot = (float) (180/Math.PI\*Math.copySign(Math.atan(yValue/xValue), yValue));

float sca = (float) (Math.sqrt(Math.pow(xValue, 2)+Math.pow(yValue, 2)));

// txtvw.setText("x:"+xValue+"\ny:"+yValue+"\nz:"+zValue+"\nd:"+rot);

if (Math.abs(yValue)>90) {

txtvw.setText("→");

txtvw.setRotation(-(rot));

} else {

txtvw.setText("←");

txtvw.setRotation(Math.copySign(180-Math.abs(rot), rot));

}

txtvw.setScaleX(sca);

txtvw.setScaleY(sca);

}

@Override

public void onAccuracyChanged(Sensor sensor, int accuracy) {

}

};

}