

## Ćwiczenia 28 — Android studio – Slider, radiogroup

Na koniec zajęć prześlij pliki źródłowe (.xml, .java)+ obrazek do zasobu w teams.

1. Utwórz projekt o nazwie MySliderRadio na podstawie Empty Activity, dobierz odpowiednie API ( 28 – Android 9).

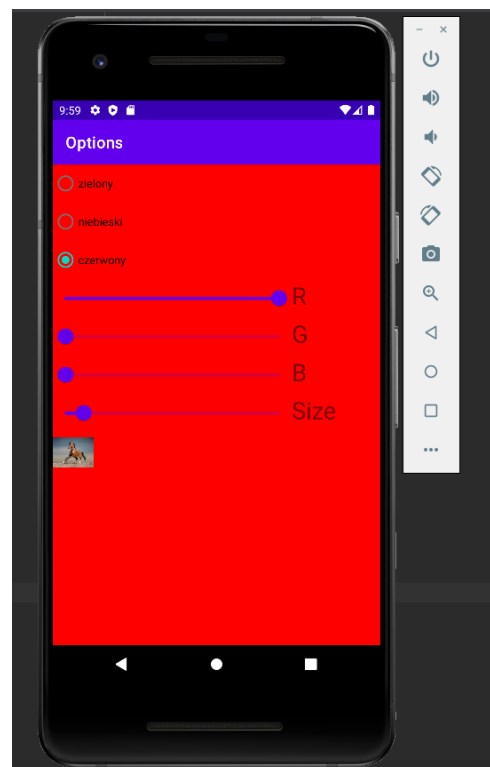
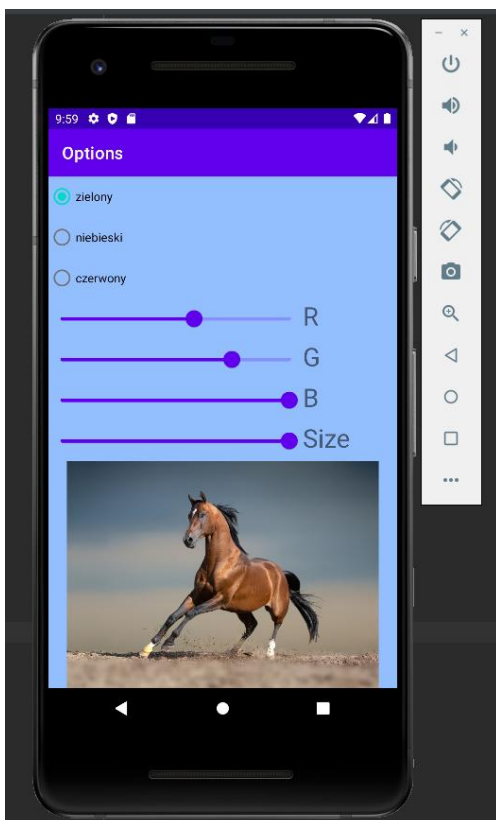
2. Otwórz dokumentację:

<https://developer.android.com/reference/com/google/android/material/slider/Slider?hl=en>

<https://developer.android.com/reference/android/widget/RadioGroup>

3. Zależności ( brak dodatkowych)

4. Chcemy uzyskać zmianę koloru tła oraz rozmiaru zdjęcia:



## 5. Dodaj kod:

```
1  <?xml version="1.0" encoding="utf-8"?>
2  <RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
3      xmlns:app="http://schemas.android.com/apk/res-auto"
4      xmlns:tools="http://schemas.android.com/tools"
5      android:layout_width="match_parent"
6      android:layout_height="match_parent"
7      tools:context=".MainActivity"
8      android:id="@+id/background_layout">
9
10     <RadioGroup
11         android:layout_width="match_parent"
12         android:layout_height="wrap_content"
13         android:orientation="vertical"
14         android:id="@+id/radio_group">
15
16         <RadioButton
17             android:layout_width="wrap_content"
18             android:layout_height="wrap_content"
19             android:text="zielony"/>
20
21         <RadioButton
22             android:layout_width="wrap_content"
23             android:layout_height="wrap_content"
24             android:text="niebieski"/>
25
26         <RadioButton
27             android:layout_width="wrap_content"
28             android:layout_height="wrap_content"
29             android:text="czerwony"/>
30
31     </RadioGroup>
```

## 6. Dodaj potrzebny kod:

```
MainActivity.java × activity_main.xml ×
13 import com.google.android.material.slider.Slider;
14
15 public class MainActivity extends AppCompatActivity {
16
17     RelativeLayout backgroundLayout;
18     RadioGroup radioGroup;
19     Slider rSlider, gSlider, bSlider, imageSizeSlider;
20     int[] rgb;
21     ImageView image;
22
23     public static final String TAG = "APP";
24
25     @Override
26     protected void onCreate(Bundle savedInstanceState) {
27         super.onCreate(savedInstanceState);
28         setContentView(R.layout.activity_main);
29
30         backgroundLayout = findViewById(R.id.background_layout);
31         radioGroup = findViewById(R.id.radio_group);
32         rSlider = findViewById(R.id.r_color);
33         gSlider = findViewById(R.id.g_color);
34         bSlider = findViewById(R.id.b_color);
35         imageSizeSlider = findViewById(R.id.image_size_slider);
36         image = findViewById(R.id.image_changeable);
37
38         radioGroup.setOnCheckedChangeListener(this::radioChange);
39         rSlider.addOnChangeListener((slider, value, fromUser) -> sliderChange(slider, color: "r"));
40         gSlider.addOnChangeListener((slider, value, fromUser) -> sliderChange(slider, color: "g"));
41         bSlider.addOnChangeListener((slider, value, fromUser) -> sliderChange(slider, color: "b"));
42         imageSizeSlider.addOnChangeListener((slider, value, fromUser) -> imageSizeSliderChange(slider));
43
44         rgb = new int[3];
45     }
46 }
```

7. Dodaj kod:

```
47 @ private void radioChange(RadioGroup radioGroup, int i) {
48     switch(radioGroup.getCheckedRadioButtonId()) {
49         case 1:
50             rgb = new int[]{0, 255, 0};
51             setBackgroundLayout(rgb);
52             break;
53
54         case 2:
55             rgb = new int[]{0, 0, 255};
56             setBackgroundLayout(rgb);
57             break;
58
59         case 3:
60             rgb = new int[]{255, 0, 0};
61             setBackgroundLayout(rgb);
62             break;
63     }
64
65     rSlider.setValue(rgb[0]);
66     gSlider.setValue(rgb[1]);
67     bSlider.setValue(rgb[2]);
68 }
69
70 @ private void sliderChange(Slider slider, String color) {
71     switch(color) {
72         case "r":
73             rgb[0] = Math.round(slider.getValue());
74             setBackgroundLayout(rgb);
75             break;
76
77         case "g":
78             rgb[1] = Math.round(slider.getValue());
79             setBackgroundLayout(rgb);
80             break;
81
82         case "b":
83             rgb[2] = Math.round(slider.getValue());
84             setBackgroundLayout(rgb);
85             break;
86     }
87 }
```

## 8. Dodaj w main\_activity.xml:

```
33 <com.google.android.material.slider.Slider
34     android:id="@+id/r_color"
35     android:layout_width="300dp"
36     android:layout_height="wrap_content"
37     android:valueFrom="0"
38     android:valueTo="255"
39     android:layout_below="@id/radio_group"/>
40
41 <TextView
42     android:layout_width="wrap_content"
43     android:layout_height="wrap_content"
44     android:text="R"
45     android:layout_toRightOf="@id/r_color"
46     android:layout_alignTop="@id/r_color"
47     android:textSize="30sp"/>
48
49 <com.google.android.material.slider.Slider
50     android:id="@+id/g_color"
51     android:layout_width="300dp"
52     android:layout_height="wrap_content"
53     android:valueFrom="0"
54     android:valueTo="255"
55     android:layout_below="@id/r_color"/>
56
57 <TextView
58     android:layout_width="wrap_content"
59     android:layout_height="wrap_content"
60     android:text="G"
61     android:layout_toRightOf="@id/g_color"
62     android:layout_alignTop="@id/g_color"
63     android:textSize="30sp"/>
```

## 9. Dodaj:

```
80
81     <com.google.android.material.slider.Slider
82         android:id="@+id/image_size_slider"
83         android:layout_width="300dp"
84         android:layout_height="wrap_content"
85         android:layout_below="@id/b_color"
86         android:valueFrom="0"
87         android:valueTo="100"/>
88
89     <TextView
90         android:layout_width="wrap_content"
91         android:layout_height="wrap_content"
92         android:text="Size"
93         android:layout_toRightOf="@id/image_size_slider"
94         android:layout_alignTop="@id/image_size_slider"
95         android:textSize="30sp"/>
96
97     <ImageView
98         android:id="@+id/image_changeable"
99         android:layout_width="wrap_content"
100        android:layout_height="wrap_content"
101        android:src="@drawable/kon"
102        android:layout_below="@id/image_size_slider"/>
103
104 </RelativeLayout>
```

## 10. Dodaj:

```
89 @ private void imageSizeSliderChange(Slider slider) {
90     int size = Math.round(slider.getValue());
91     image.getLayoutParams().width = 90 * size / 6;
92     image.getLayoutParams().height = 90 * size / 6;
93     image.requestLayout();
94
95     // image.getWidth() and image.getHeight() returns 0
96     // image.getLayoutParams().width = image.getWidth() * (size / 100);
97     // image.getLayoutParams().height = image.getHeight() * (size / 100);
98 }
99
100 @ private void setBackgroundLayout(int[] rgb) {
101     backgroundLayout.setBackgroundColor(Color.rgb(rgb[0], rgb[1], rgb[2]));
102 }
103 }
```

11. Dodatkowe zadania

- a) dodaj metodę ...
- b) zrealizuj powyższe ćwiczenie z wykorzystaniem checkbox

12. KONIEC.