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ФАКУЛЬТЕТ ИУК «Информатика и управление»

КАФЕДРА ИУК4 «Программное обеспечение ЭВМ, информационные технологии»

ЛАБОРАТОРНАЯ РАБОТА №3

«Разработка Android-приложений с несколькими activity. Работа с intent-объектами»

ДИСЦИПЛИНА: «Разработка мобильного ПО»

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- Балльная оценка:

- Оценка:

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Цель: приобретение практических навыков разработки приложений с несколькими Activity и Intent-объектами.

Задачи:

1. Изучить механизм создания многоэкранных приложений на платформе Android
2. Научиться разрабатывать приложения с использованием явного и неявного вызова классов
3. Понять особенности реализации Android-приложений с использованием Intent-объектов

Задание:

Задание состоит из двух проектов. Все проекты используют Intent объекты. В первом проекте все требуемые параметры устанавливаются в главном Activity и результат отображается на второстепенном Activity. Во втором проекте результат отображается на главном Activity, а для задания соответствующих параметров используется несколько второстепенных Activity. Один из проектов реализовать с использованием неявного вызова (action), второй проект реализовать с явным вызовом класса(-ов).

Вариант 14

С помощью компонентов RadioButton задать не менее 6 размеров текста, компоненты ImageButton определяют палитру цветов 4x4 (один цвет случайный) для задания цвета текста, Button определяют выравнивание текста по горизонтали (слева, справа, по центру). Отобразить текст в компоненте TextView с заданными параметрами.

Листинг:

Версия 1:

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">

    <RadioGroup
        android:id="@+id/radioGroup"
        android:layout_width="150dp"
        android:layout_height="290dp"
        android:layout_marginStart="50dp"
        android:layout_marginTop="25dp"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent">

        <RadioButton
            android:id="@+id/radioButtonSize_1"
            android:layout_width="match_parent"
```

```

        android:layout_height="wrap_content"
        android:checked="true"
        android:onClick="onSizeButtonClicked"
        android:text="Pazmep 1"
        android:textSize="12sp" />

<RadioButton
    android:id="@+id/radioButtonSize_2"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:onClick="onSizeButtonClicked"
    android:text="Pazmep 2"
    android:textSize="14sp" />

<RadioButton
    android:id="@+id/radioButtonSize_3"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:onClick="onSizeButtonClicked"
    android:text="Pazmep 3"
    android:textSize="16sp" />

<RadioButton
    android:id="@+id/radioButtonSize_4"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:onClick="onSizeButtonClicked"
    android:text="Pazmep 4"
    android:textSize="18sp" />

<RadioButton
    android:id="@+id/radioButtonSize_5"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:onClick="onSizeButtonClicked"
    android:text="Pazmep 5"
    android:textSize="20sp" />

<RadioButton
    android:id="@+id/radioButtonSize_6"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:onClick="onSizeButtonClicked"
    android:text="Pazmep 6"
    android:textSize="22sp" />
</RadioGroup>

<ImageButton
    android:id="@+id/darkRedImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="70dp"
    android:layout_marginTop="25dp"
    android:background="#a50200"
    android:contentDescription="TODO"
    android:onClick="onColorClicked"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/radioGroup" />

<ImageButton
    android:id="@+id/redImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="25dp"
    android:layout_marginTop="25dp"
    android:background="#ff110e"

```

```

        android:contentDescription="TODO"
        android:onClick="onColorClicked"
        app:layout_constraintStart_toEndOf="@+id/darkRedImageButton"
        app:layout_constraintTop_toBottomOf="@+id/radioGroup" />

<ImageButton
    android:id="@+id/brightRedImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="25dp"
    android:layout_marginTop="25dp"
    android:background="#ff6d6c"
    android:contentDescription="TODO"
    android:onClick="onColorClicked"
    app:layout_constraintStart_toEndOf="@+id/redImageButton"
    app:layout_constraintTop_toBottomOf="@+id/radioGroup" />

<ImageButton
    android:id="@+id/darkBlackImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="25dp"
    android:layout_marginTop="25dp"
    android:background="#000000"
    android:contentDescription="TODO"
    android:onClick="onColorClicked"
    app:layout_constraintStart_toEndOf="@+id/brightRedImageButton"
    app:layout_constraintTop_toBottomOf="@+id/radioGroup" />

<ImageButton
    android:id="@+id/darkGreenImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="70dp"
    android:layout_marginTop="25dp"
    android:background="#448c00"
    android:contentDescription="TODO"
    android:onClick="onColorClicked"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/darkRedImageButton" />

<ImageButton
    android:id="@+id/greenImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="25dp"
    android:layout_marginTop="25dp"
    android:background="#78f600"
    android:contentDescription="TODO"
    android:onClick="onColorClicked"
    app:layout_constraintStart_toEndOf="@+id/darkGreenImageButton"
    app:layout_constraintTop_toBottomOf="@+id/redImageButton" />

<ImageButton
    android:id="@+id/brightGreenImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="25dp"
    android:layout_marginTop="25dp"
    android:background="#b0ff65"
    android:contentDescription="TODO"
    android:onClick="onColorClicked"
    app:layout_constraintStart_toEndOf="@+id/greenImageButton"
    app:layout_constraintTop_toBottomOf="@+id/brightRedImageButton" />

<ImageButton

```

```

        android:id="@+id/blackImageButton"
        android:layout_width="50dp"
        android:layout_height="50dp"
        android:layout_marginStart="25dp"
        android:layout_marginTop="25dp"
        android:background="#777777"
        android:contentDescription="TODO"
        android:onClick="onColorClicked"
        app:layout_constraintStart_toEndOf="@+id/brightGreenImageButton"
        app:layout_constraintTop_toBottomOf="@+id/darkBlackImageButton" />

<ImageButton
    android:id="@+id/darkBlueImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="70dp"
    android:layout_marginTop="25dp"
    android:background="#009190"
    android:contentDescription="TODO"
    android:onClick="onColorClicked"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/darkGreenImageButton" />

<ImageButton
    android:id="@+id/blueImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="25dp"
    android:layout_marginTop="25dp"
    android:background="#0ffffd"
    android:contentDescription="TODO"
    android:onClick="onColorClicked"
    app:layout_constraintStart_toEndOf="@+id/darkBlueImageButton"
    app:layout_constraintTop_toBottomOf="@+id/greenImageButton" />

<ImageButton
    android:id="@+id/brightBlueImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="25dp"
    android:layout_marginTop="25dp"
    android:background="#9bffffe"
    android:contentDescription="TODO"
    android:onClick="onColorClicked"
    app:layout_constraintStart_toEndOf="@+id/blueImageButton"
    app:layout_constraintTop_toBottomOf="@+id/brightGreenImageButton" />

<ImageButton
    android:id="@+id/brightBlackImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="25dp"
    android:layout_marginTop="25dp"
    android:background="#bebebe"
    android:contentDescription="TODO"
    android:onClick="onColorClicked"
    app:layout_constraintStart_toEndOf="@+id/brightBlueImageButton"
    app:layout_constraintTop_toBottomOf="@+id/blackImageButton" />

<ImageButton
    android:id="@+id/darkPurpleImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="70dp"
    android:layout_marginTop="25dp"
    android:background="#4a0090"

```

```

        android:contentDescription="TODO"
        android:onClick="onColorClicked"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/darkBlueImageButton" />

<ImageButton
    android:id="@+id/purpleImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="25dp"
    android:layout_marginTop="25dp"
    android:background="#8708ff"
    android:contentDescription="TODO"
    android:onClick="onColorClicked"
    app:layout_constraintStart_toEndOf="@+id/darkPurpleImageButton"
    app:layout_constraintTop_toBottomOf="@+id/blueImageButton" />

<ImageButton
    android:id="@+id/brightPurpleImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="25dp"
    android:layout_marginTop="25dp"
    android:background="#c990ff"
    android:contentDescription="TODO"
    android:onClick="onColorClicked"
    app:layout_constraintStart_toEndOf="@+id/purpleImageButton"
    app:layout_constraintTop_toBottomOf="@+id/brightBlueImageButton" />

<ImageButton
    android:id="@+id/randomImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="25dp"
    android:layout_marginTop="25dp"
    android:background="#ffffff"
    android:contentDescription="TODO"
    android:onClick="onColorClicked"
    app:layout_constraintStart_toEndOf="@+id/brightPurpleImageButton"
    app:layout_constraintTop_toBottomOf="@+id/brightBlackImageButton" />

<Button
    android:id="@+id/leftButton"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="onAlignmentButtonClicked"
    android:text="Слева"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toEndOf="@+id/radioGroup"
    app:layout_constraintTop_toTopOf="@+id/radioGroup"
    android:layout_marginTop="10dp"/>

<Button
    android:id="@+id/centerButton"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="onAlignmentButtonClicked"
    android:text="По центру"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toEndOf="@+id/radioGroup"
    app:layout_constraintTop_toBottomOf="@+id/leftButton"
    android:layout_marginTop="10dp"/>

<Button
    android:id="@+id/rightButton"
    android:layout_width="wrap_content"

```

```

        android:layout_height="wrap_content"
        android:onClick="onAlignmentButtonClicked"
        android:text="Српава"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toEndOf="@+id/radioGroup"
        app:layout_constraintTop_toBottomOf="@+id/centerButton"
        android:layout_marginTop="10dp"/>

<Button
    android:id="@+id/resultButton"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="onResultButtonClicked"
    android:text="Результат"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toEndOf="@+id/radioGroup"
    app:layout_constraintTop_toBottomOf="@+id/rightButton"
    android:layout_marginTop="35dp"/>

</androidx.constraintlayout.widget.ConstraintLayout>

```

MainActivity.java

```

package com.blackline.lw3_2_3_1;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.graphics.Color;
import android.graphics.drawable.ColorDrawable;
import android.os.Bundle;
import android.view.Gravity;
import android.view.View;
import android.widget.ImageButton;

import java.util.Random;

public class MainActivity extends AppCompatActivity {
    Integer alignment = Gravity.CENTER;
    Integer size = 12;
    Integer color = 0;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        Random random = new Random();
        findViewById(R.id.randomImageButton).setBackgroundColor(Color.rgb(
            random.nextInt(255), random.nextInt(255), random.nextInt(255)));
    }

    public void onAlignmentButtonClicked(View view)
    {
        switch (view.getId())
        {
            case R.id.rightButton:
                alignment = Gravity.RIGHT;
                break;
            case R.id.centerButton:
                alignment = Gravity.CENTER;
                break;
            case R.id.leftButton:
                alignment = Gravity.LEFT;
                break;
        }
    }
}

```

```

    }
}

public void onSizeButtonClicked(View view)
{
    switch (view.getId())
    {
        case R.id.radioButtonSize_1:
            size = 12;
            break;
        case R.id.radioButtonSize_2:
            size = 14;
            break;
        case R.id.radioButtonSize_3:
            size = 16;
            break;
        case R.id.radioButtonSize_4:
            size = 18;
            break;
        case R.id.radioButtonSize_5:
            size = 20;
            break;
        case R.id.radioButtonSize_6:
            size = 22;
            break;
    }
}

public void onColorClicked(View view)
{
    color = ((ColorDrawable) view.getBackground()).getColor();
}

public void onResultButtonClicked(View view)
{
    Intent intent = new Intent(this, SecondActivity.class);
    intent.putExtra("alignment", alignment);
    intent.putExtra("size", size);
    intent.putExtra("color", color);
    startActivity(intent);
}
}

```

activity_second.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=".SecondActivity">

    <TextView
        android:id="@+id/textView"
        android:layout_width="341dp"
        android:layout_height="32dp"
        android:text="Форматированный текст"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>

```


SecondActivity.java

```
package com.blackline.lw3_2_3_1;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.Gravity;
import android.widget.TextView;

public class SecondActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_second);

        Intent intent = getIntent();
        TextView textView = findViewById(R.id.textView);
        textView.setGravity(intent.getIntExtra("alignment", Gravity.CENTER));
        textView.setTextSize(intent.getIntExtra("size", 12));
        textView.setTextColor(intent.getIntExtra("color", 0));
    }
}
```

Версия 2:

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">

    <TextView
        android:id="@+id/textView"
        android:layout_width="333dp"
        android:layout_height="40dp"
        android:gravity="center"
        android:text="Форматированный текст"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/alignmentButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Выравнивание"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView"
        android:layout_marginTop="25dp"
        android:onClick="changeAlignment" />

    <Button
        android:id="@+id/sizeButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
```

```

        android:text="Pazmep"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/alignmentButton"
        android:layout_marginTop="10dp"
        android:onClick="changeSize"/>

<Button
    android:id="@+id/colorButton"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Избег"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/sizeButton"
    android:layout_marginTop="10dp"
    android:onClick="changeColor"/>

</androidx.constraintlayout.widget.ConstraintLayout>

```

MainActivity.java

```

package com.blackline.lw_3_2_3_2;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.Gravity;
import android.view.View;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }

    public void changeAlignment(View view){
        Intent intent = new Intent("android.intent.action.ChangeTextAlingment");
        startActivityForResult(intent, 1);
    }

    public void changeSize(View view){
        Intent intent = new Intent("android.intent.action.ChangeSize");
        startActivityForResult(intent, 2);
    }

    public void changeColor(View view){
        Intent intent = new Intent("android.intent.action.ChangeColor");
        startActivityForResult(intent, 3);
    }

    @Override
    protected void onActivityResult(int requestCode, int resultCode, Intent
data) {
        super.onActivityResult(requestCode, resultCode, data);
        TextView textView = findViewById(R.id.textview);
        if (data == null) {return;}
        if (resultCode != RESULT_OK) {return;}
        switch (requestCode){
            case 1:
                Integer alignment = data.getIntExtra("alignment",

```

```

Gravity.CENTER);
        textView.setGravity(alignment);
        break;
    case 2:
        Integer size = data.getIntExtra("size", 12);
        textView.setTextSize(size);
        break;
    case 3:
        Integer color = data.getIntExtra("color", 0);
        textView.setTextColor(color);
        break;
    }
}
}

```

activity_alignment.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=".AlignmentActivity">

    <Button
        android:id="@+id/leftButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:onClick="onAlignmentButtonClicked"
        android:text="Слева"
        app:layout_constraintBottom_toTopOf="@+id/centerButton"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        android:layout_marginBottom="10dp"/>

    <Button
        android:id="@+id/centerButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:onClick="onAlignmentButtonClicked"
        android:text="По центру"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/rightButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="10dp"
        android:onClick="onAlignmentButtonClicked"
        android:text="Справа"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/centerButton" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

AlignmentActivity.java

```

package com.blackline.lw_3_2_3_2;

```

```

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.graphics.drawable.ColorDrawable;
import android.os.Bundle;
import android.view.Gravity;
import android.view.View;

public class AlignmentActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_alignment);
    }

    public void onAlignmentButtonClicked(View view)
    {
        int alignment = Gravity.CENTER;
        switch (view.getId())
        {
            case R.id.rightButton:
                alignment = Gravity.RIGHT;
                break;
            case R.id.centerButton:
                alignment = Gravity.CENTER;
                break;
            case R.id.leftButton:
                alignment = Gravity.LEFT;
                break;
        }

        Intent intent = new Intent();
        intent.putExtra("alignment", alignment);
        setResult(RESULT_OK, intent);
        finish();
    }
}

```

activity_size.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=".SizeActivity">

    <RadioGroup
        android:id="@+id/radioGroup"
        android:layout_width="150dp"
        android:layout_height="290dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent">

        <RadioButton
            android:id="@+id/radioButtonSize_1"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:onClick="onSizeButtonClicked"
            android:text="Размер 1"

```

```

        android:textSize="12sp" />

<RadioButton
    android:id="@+id/radioButtonSize_2"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:onClick="onSizeButtonClicked"
    android:text="Размер 2"
    android:textSize="14sp" />

<RadioButton
    android:id="@+id/radioButtonSize_3"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:onClick="onSizeButtonClicked"
    android:text="Размер 3"
    android:textSize="16sp" />

<RadioButton
    android:id="@+id/radioButtonSize_4"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:onClick="onSizeButtonClicked"
    android:text="Размер 4"
    android:textSize="18sp" />

<RadioButton
    android:id="@+id/radioButtonSize_5"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:onClick="onSizeButtonClicked"
    android:text="Размер 5"
    android:textSize="20sp" />

<RadioButton
    android:id="@+id/radioButtonSize_6"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:onClick="onSizeButtonClicked"
    android:text="Размер 6"
    android:textSize="22sp" />
</RadioGroup>

</androidx.constraintlayout.widget.ConstraintLayout>

```

SizeActivity.java

```

package com.blackline.lw_3_2_3_2;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;

public class SizeActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_size);
    }

    public void onSizeButtonClicked(View view)
    {

```

```

Integer size = 12;

switch (view.getId())
{
    case R.id.radioButtonSize_1:
        size = 12;
        break;
    case R.id.radioButtonSize_2:
        size = 14;
        break;
    case R.id.radioButtonSize_3:
        size = 16;
        break;
    case R.id.radioButtonSize_4:
        size = 18;
        break;
    case R.id.radioButtonSize_5:
        size = 20;
        break;
    case R.id.radioButtonSize_6:
        size = 22;
        break;
}

Intent intent = new Intent();
intent.putExtra("size", size);
setResult(RESULT_OK, intent);
finish();
}
}

```

activity_color.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=".ColorActivity">

    <ImageButton
        android:id="@+id/darkRedImageButton"
        android:layout_width="50dp"
        android:layout_height="50dp"
        android:layout_marginStart="70dp"
        android:background="#a50200"
        android:contentDescription="TODO"
        android:onClick="onColorClicked"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        android:layout_marginTop="250dp"
    />

    <ImageButton
        android:id="@+id/redImageButton"
        android:layout_width="50dp"
        android:layout_height="50dp"
        android:layout_marginStart="25dp"
        android:background="#ff110e"
        android:contentDescription="TODO"
        android:onClick="onColorClicked"
        app:layout_constraintStart_toEndOf="@+id/darkRedImageButton"
        app:layout_constraintTop_toTopOf="parent"
    />

```

```

        android:layout_marginTop="250dp"/>

<ImageButton
    android:id="@+id/brightRedImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="25dp"
    android:background="#ff6d6c"
    android:contentDescription="TODO"
    android:onClick="onColorClicked"
    app:layout_constraintStart_toEndOf="@+id/redImageButton"
    app:layout_constraintTop_toTopOf="parent"
    android:layout_marginTop="250dp"/>

<ImageButton
    android:id="@+id/darkBlackImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="25dp"
    android:background="#000000"
    android:contentDescription="TODO"
    android:onClick="onColorClicked"
    app:layout_constraintStart_toEndOf="@+id/brightRedImageButton"
    app:layout_constraintTop_toTopOf="parent"
    android:layout_marginTop="250dp"/>

<ImageButton
    android:id="@+id/darkGreenImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="70dp"
    android:layout_marginTop="25dp"
    android:background="#448c00"
    android:contentDescription="TODO"
    android:onClick="onColorClicked"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/darkRedImageButton" />

<ImageButton
    android:id="@+id/greenImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="25dp"
    android:layout_marginTop="25dp"
    android:background="#78f600"
    android:contentDescription="TODO"
    android:onClick="onColorClicked"
    app:layout_constraintStart_toEndOf="@+id/darkGreenImageButton"
    app:layout_constraintTop_toBottomOf="@+id/redImageButton" />

<ImageButton
    android:id="@+id/brightGreenImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="25dp"
    android:layout_marginTop="25dp"
    android:background="#b0ff65"
    android:contentDescription="TODO"
    android:onClick="onColorClicked"
    app:layout_constraintStart_toEndOf="@+id/greenImageButton"
    app:layout_constraintTop_toBottomOf="@+id/brightRedImageButton" />

<ImageButton
    android:id="@+id/blackImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"

```

```

        android:layout_marginStart="25dp"
        android:layout_marginTop="25dp"
        android:background="#777777"
        android:contentDescription="TODO"
        android:onClick="onColorClicked"
        app:layout_constraintStart_toEndOf="@+id/brightGreenImageButton"
        app:layout_constraintTop_toBottomOf="@+id/darkBlackImageButton" />

<ImageButton
    android:id="@+id/darkBlueImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="70dp"
    android:layout_marginTop="25dp"
    android:background="#009190"
    android:contentDescription="TODO"
    android:onClick="onColorClicked"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/darkGreenImageButton" />

<ImageButton
    android:id="@+id/blueImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="25dp"
    android:layout_marginTop="25dp"
    android:background="#0ffffd"
    android:contentDescription="TODO"
    android:onClick="onColorClicked"
    app:layout_constraintStart_toEndOf="@+id/darkBlueImageButton"
    app:layout_constraintTop_toBottomOf="@+id/greenImageButton" />

<ImageButton
    android:id="@+id/brightBlueImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="25dp"
    android:layout_marginTop="25dp"
    android:background="#9bffff"
    android:contentDescription="TODO"
    android:onClick="onColorClicked"
    app:layout_constraintStart_toEndOf="@+id/blueImageButton"
    app:layout_constraintTop_toBottomOf="@+id/brightGreenImageButton" />

<ImageButton
    android:id="@+id/brightBlackImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="25dp"
    android:layout_marginTop="25dp"
    android:background="#bebebe"
    android:contentDescription="TODO"
    android:onClick="onColorClicked"
    app:layout_constraintStart_toEndOf="@+id/brightBlueImageButton"
    app:layout_constraintTop_toBottomOf="@+id/blackImageButton" />

<ImageButton
    android:id="@+id/darkPurpleImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="70dp"
    android:layout_marginTop="25dp"
    android:background="#4a0090"
    android:contentDescription="TODO"
    android:onClick="onColorClicked"
    app:layout_constraintStart_toStartOf="parent"

```



```

        app:layout_constraintTop_toBottomOf="@+id/darkBlueImageButton" />

<ImageButton
    android:id="@+id/purpleImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="25dp"
    android:layout_marginTop="25dp"
    android:background="#8708ff"
    android:contentDescription="TODO"
    android:onClick="onColorClicked"
    app:layout_constraintStart_toEndOf="@+id/darkPurpleImageButton"
    app:layout_constraintTop_toBottomOf="@+id/blueImageButton" />

<ImageButton
    android:id="@+id/brightPurpleImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="25dp"
    android:layout_marginTop="25dp"
    android:background="#c990ff"
    android:contentDescription="TODO"
    android:onClick="onColorClicked"
    app:layout_constraintStart_toEndOf="@+id/purpleImageButton"
    app:layout_constraintTop_toBottomOf="@+id/brightBlueImageButton" />

<ImageButton
    android:id="@+id/randomImageButton"
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_marginStart="25dp"
    android:layout_marginTop="25dp"
    android:background="#ffffff"
    android:contentDescription="TODO"
    android:onClick="onColorClicked"
    app:layout_constraintStart_toEndOf="@+id/brightPurpleImageButton"
    app:layout_constraintTop_toBottomOf="@+id/brightBlackImageButton" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

ColorActivity.java

```

package com.blackline.lw_3_2_3_2;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.graphics.Color;
import android.graphics.drawable.ColorDrawable;
import android.os.Bundle;
import android.view.View;

import java.util.Random;

public class ColorActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_color);

        Random random = new Random();
        findViewById(R.id.randomImageButton).setBackgroundColor(Color.rgb(
            random.nextInt(255), random.nextInt(255), random.nextInt(255)));
    }
}

```

```

public void onColorClicked(View view)
{
    Intent intent = new Intent();
    intent.putExtra("color",
        ((ColorDrawable)view.getBackground()).getColor());
    setResult(RESULT_OK, intent);
    finish();
}
}

```

AndroidManifest.xml

```

<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">

    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:supportRtl="true"
        android:theme="@style/Theme.LW3232"
        tools:targetApi="31">
        <activity
            android:name=".ColorActivity"
            android:exported="false">
            <intent-filter>
                <action android:name="android.intent.action.ChangeColor"/>
                <category android:name="android.intent.category.DEFAULT"/>
            </intent-filter>
        </activity>
        <activity
            android:name=".SizeActivity"
            android:exported="false">
            <intent-filter>
                <action android:name="android.intent.action.ChangeSize"/>
                <category android:name="android.intent.category.DEFAULT"/>
            </intent-filter>
        </activity>
        <activity
            android:name=".AlignmentActivity"
            android:exported="false">
            <intent-filter>
                <action
                    android:name="android.intent.action.ChangeTextAlingment"/>
                <category android:name="android.intent.category.DEFAULT"/>
            </intent-filter>
        </activity>
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

</manifest>

```

Результат:

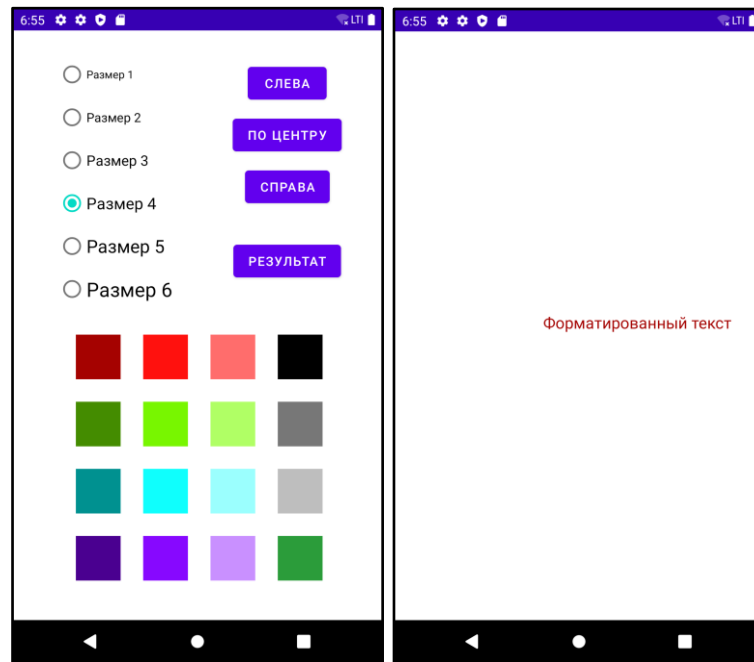


Рис. 1. Первая версия

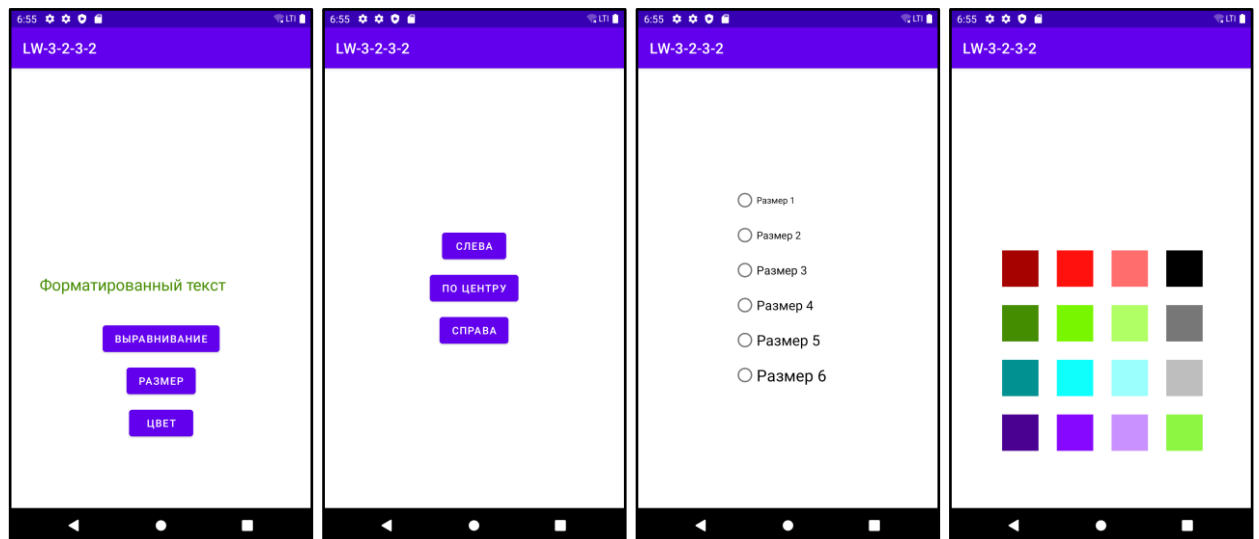


Рис. 2. Вторая версия

Вывод: в ходе выполнения лабораторной работы были получены практические навыки разработки приложений с несколькими Activity и Intent-объектами.