

Практическая работа 9. Духаниной Яна ИС222

1. Написала код

```
<?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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="@color/black"
    android:orientation="vertical"
    tools:context=".MainActivity">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="0dp"
        android:layout_weight="1"
        android:background="@color/black"
        android:gravity="bottom"
        android:orientation="vertical"
        android:padding="30dp">
        <TextView
            android:id="@+id/input"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:gravity="end"
            android:textColor="@color/white"
            android:textSize="30sp"
            tools:text="5+10-3" />
        <TextView
            android:id="@+id/output"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:gravity="end"
            android:textColor="@color/neon_green"
            android:textSize="50sp"
            tools:text="12" />
    </LinearLayout>
    <TableLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
```

```

<TableRow>
    <androidx.appcompat.widget.AppCompatButton
        android:id="@+id/button_clear"
        style="@style/Button_Style"
        android:layout_width="wrap_content"
        android:layout_height="90dp"
        android:text="Del"
        android:textColor="@color/red" />
    <androidx.appcompat.widget.AppCompatButton
        android:id="@+id/button_bracket_left"
        style="@style/Button_Style"
        android:layout_width="wrap_content"
        android:layout_height="90dp"
        android:text="("
        android:textColor="@color/orange" />
    <androidx.appcompat.widget.AppCompatButton
        android:id="@+id/button_bracket_right"
        style="@style/Button_Style"
        android:layout_width="wrap_content"
        android:layout_height="90dp"
        android:text=")"
        android:textColor="@color/orange" />
    <androidx.appcompat.widget.AppCompatButton
        android:id="@+id/button_division"
        style="@style/Button_Style"
        android:layout_width="wrap_content"
        android:layout_height="90dp"
        android:text="÷"
        android:textColor="@color/orange" />
</TableRow>
<TableRow>
    <androidx.appcompat.widget.AppCompatButton
        android:id="@+id/button_7"
        style="@style/Button_Style"
        android:layout_width="wrap_content"
        android:layout_height="90dp"
        android:text="7" />
    <androidx.appcompat.widget.AppCompatButton
        android:id="@+id/button_8"

```

```

<androidx.appcompat.widget.AppCompatButton
    android:id="@+id/button_8"
    style="@style/Button_Style"
    android:layout_width="wrap_content"
    android:layout_height="90dp"
    android:text="8" />
<androidx.appcompat.widget.AppCompatButton
    android:id="@+id/button_9"
    style="@style/Button_Style"
    android:layout_width="wrap_content"
    android:layout_height="90dp"
    android:text="9" />
<androidx.appcompat.widget.AppCompatButton
    android:id="@+id/button_multiply"
    style="@style/Button_Style"
    android:layout_width="wrap_content"
    android:layout_height="90dp"
    android:text="x"
    android:textColor="@color/orange" />
</TableRow>
<TableRow>
    <androidx.appcompat.widget.AppCompatButton
        android:id="@+id/button_4"
        style="@style/Button_Style"
        android:layout_width="wrap_content"
        android:layout_height="90dp"
        android:text="4" />
    <androidx.appcompat.widget.AppCompatButton
        android:id="@+id/button_5"
        style="@style/Button_Style"
        android:layout_width="wrap_content"
        android:layout_height="90dp"
        android:text="5" />
    <androidx.appcompat.widget.AppCompatButton
        android:id="@+id/button_6"
        style="@style/Button_Style"
        android:layout_width="wrap_content"
        android:layout_height="90dp"

```

```

        android:text="6" />
    <androidx.appcompat.widget.AppCompatButton
        android:id="@+id/button_subtraction"
        style="@style/Button_Style"
        android:layout_width="wrap_content"
        android:layout_height="90dp"
        android:text="-"
        android:textColor="@color/orange" />
</TableRow>
<TableRow>
    <androidx.appcompat.widget.AppCompatButton
        android:id="@+id/button_1"
        style="@style/Button_Style"
        android:layout_width="wrap_content"
        android:layout_height="90dp"
        android:text="1" />
    <androidx.appcompat.widget.AppCompatButton
        android:id="@+id/button_2"
        style="@style/Button_Style"
        android:layout_width="wrap_content"
        android:layout_height="90dp"
        android:text="2" />
    <androidx.appcompat.widget.AppCompatButton
        android:id="@+id/button_3"
        style="@style/Button_Style"
        android:layout_width="wrap_content"
        android:layout_height="90dp"
        android:text="3" />
    <androidx.appcompat.widget.AppCompatButton
        android:id="@+id/button_addition"
        style="@style/Button_Style"
        android:layout_width="wrap_content"
        android:layout_height="90dp"
        android:text="+"
        android:textColor="@color/orange" />
</TableRow>
<TableRow>
    <androidx.appcompat.widget.AppCompatButton
        android:id="@+id/button_percent"

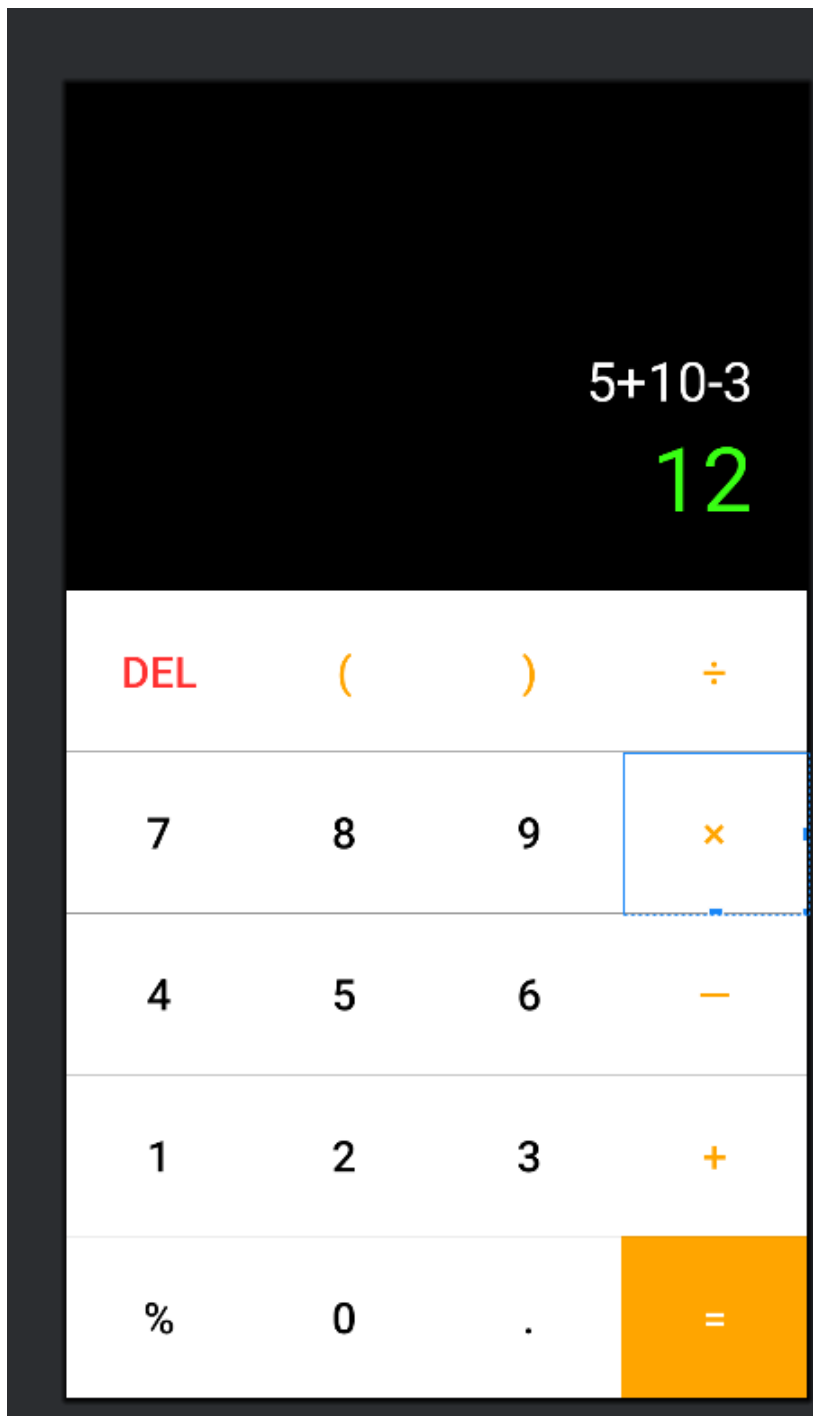
```

```

        android:layout_height="90dp"
        android:text="+"
        android:textColor="@color/orange" />
    </TableRow>
    <TableRow>
        <androidx.appcompat.widget.AppCompatButton
            android:id="@+id/button_percent"
            style="@style/Button_Style"
            android:layout_width="wrap_content"
            android:layout_height="90dp"
            android:text="%" />
        <androidx.appcompat.widget.AppCompatButton
            android:id="@+id/button_0"
            style="@style/Button_Style"
            android:layout_height="90dp"
            android:text="0" />
        <androidx.appcompat.widget.AppCompatButton
            android:id="@+id/button_dot"
            style="@style/Button_Style"
            android:layout_width="wrap_content"
            android:layout_height="90dp"
            android:text="." />
        <androidx.appcompat.widget.AppCompatButton
            android:id="@+id/button_equals"
            style="@style/Button_Style"
            android:layout_width="wrap_content"
            android:layout_height="90dp"
            android:background="@color/orange"
            android:text="="
            android:textColor="@color/white" />
    </TableRow>
</TableLayout>

```

2. Результат



3. Добавила цвета

```
<color name="black">#FF000000</color>
<color name="white">#FFFFFFF</color>
<color name="purple_200">#FFBB86FC</color>
<color name="purple_500">#FF6200EE</color>
<color name="purple_700">#FF3700B3</color>
<color name="teal_200">#FF03DAC5</color>
<color name="teal_700">#FF018786</color>
<color name="red">#FF3131</color>
<color name="pink">#FFC0CB</color>
<color name="orange">#FFA500</color>
<color name="neon_green">#39FF14</color>
```

4. Добавила стили для кнопок

```
<style name="Button_Style" parent="Widget.AppCompat.Button.Colored">
    <item name="android:background">@color/white</item>
    <item name="android:textSize">24sp</item>
    <item name="android:textColor">@color/black</item>
    <item name="android:gravity">center</item>
</style>
```

5. Добавила библиотеку

```
dependencies {
    implementation("net.objecthunter:exp4j:0.4.8")
}
```

6. Для дальнейшей работы подключаю в Gradle viewBinding

```
buildFeatures {
    viewBinding = true
}
```

7. Написала код в MainActivity

```
class MainActivity : AppCompatActivity() {
    private lateinit var binding: ActivityMainBinding

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        enableEdgeToEdge()
        setContentView(R.layout.activity_main)

        binding = ActivityMainBinding.inflate(layoutInflater)
        setContentView(binding.root)

        binding.buttonClear.setOnClickListener {
            binding.input.text = ""
            binding.output.text = ""
        }
        binding.buttonBracketLeft.setOnClickListener {
            addToInputText(" (")
        }
        binding.buttonBracketRight.setOnClickListener {
            addToInputText(" )")
        }
        binding.button0.setOnClickListener {
            addToInputText(" 0")
        }
        binding.button1.setOnClickListener {
            addToInputText(" 1")
        }
        binding.button2.setOnClickListener {
            addToInputText(" 2")
        }
        binding.button3.setOnClickListener {
            addToInputText(" 3")
        }
        binding.button4.setOnClickListener {
            addToInputText(" 4")
        }
        binding.button5.setOnClickListener {
            addToInputText(" 5")
        }
        binding.button6.setOnClickListener {
            addToInputText(" 6")
        }
    }
}
```

```

    }
    binding.button8.setOnClickListener {
        addToInputText( value: "8")
    }
    binding.button9.setOnClickListener {
        addToInputText( value: "9")
    }
    binding.buttonDot.setOnClickListener {
        addToInputText( value: ".")
    }
    binding.buttonDivision.setOnClickListener {
        addToInputText( value: "÷")
    }
    binding.buttonMultiply.setOnClickListener {
        addToInputText( value: "x")
    }
    binding.buttonSubtraction.setOnClickListener {
        addToInputText( value: "-")
    }
    binding.buttonAddition.setOnClickListener {
        addToInputText( value: "+")
    }
    binding.buttonEquals.setOnClickListener {
        showResult()
    }
    binding.buttonPercent.setOnClickListener {
        addToInputText( value: "%")
    }
}

private fun addToInputText(value: String) {
    binding.input.append(value)
}

private fun getInputExpression(): String {
    return binding.input.text.toString()
}

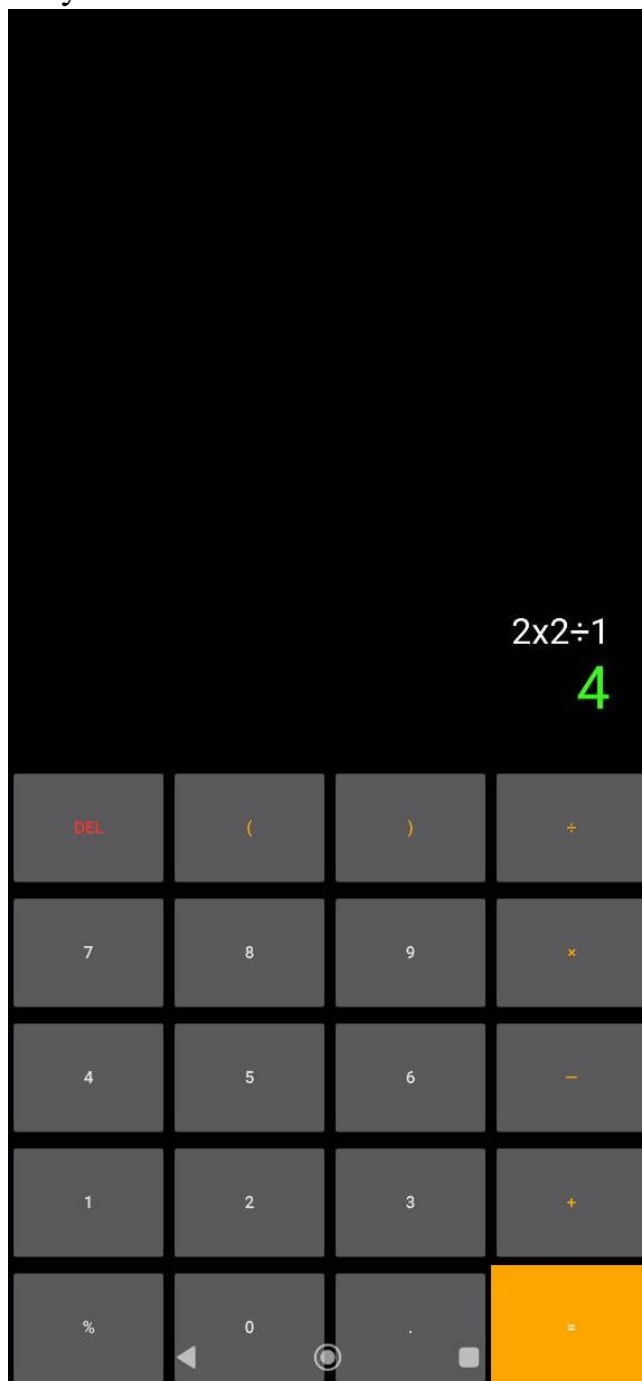
private fun showResult() {

```



```
private fun showResult() {
    try {
        val expression = getInputExpression()
        .replace(oldValue: "÷", newValue: "/" )
        .replace(oldValue: "x", newValue: "*")
        .replace(oldValue: "%", newValue: "/100")
        val result = ExpressionBuilder(expression).build().evaluate()
        binding.output.text = DecimalFormat(pattern: "0.#####").format(result).toString()
        binding.output.setTextColor(ContextCompat.getColor(context: this, R.color.neon_green))
    } catch (e: Exception) {
        binding.output.text = "Ошибка"
        binding.output.setTextColor(ContextCompat.getColor(context: this, R.color.red))
    }
}
```

8. Результат



9. Изменила иконку приложения

10. Создала новую активность и прописала код

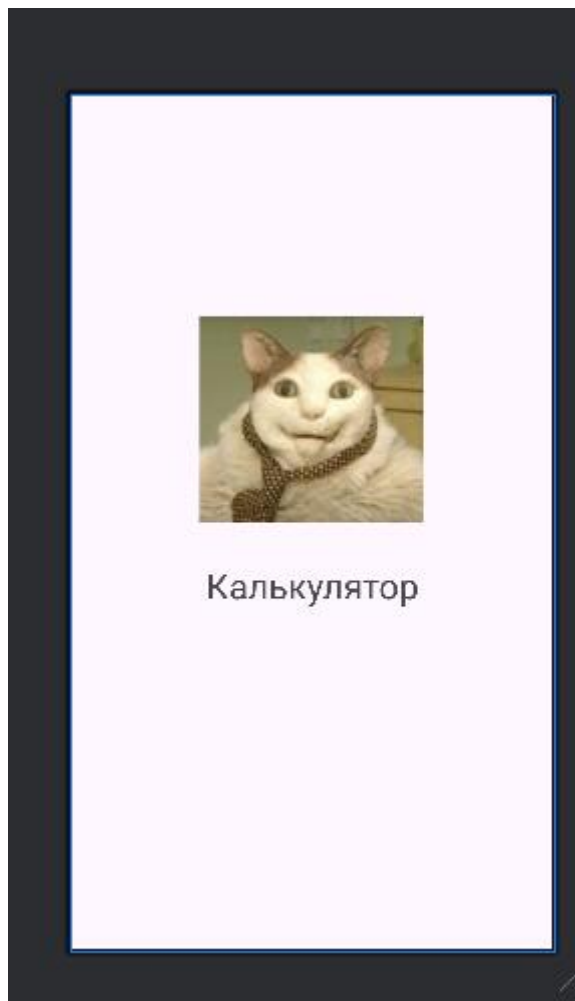
```
<androidx.constraintlayout.widget.ConstraintLayout xmlns:and
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".Splash_screen">

    <TextView
        android:layout_width="189dp"
        android:layout_height="89dp"
        android:gravity="center"
        android:text="Калькулятор"
        android:textSize="30dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.504"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/imageView"
        app:layout_constraintVertical_bias="0.036" />

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:src="@drawable/bu"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.343" />

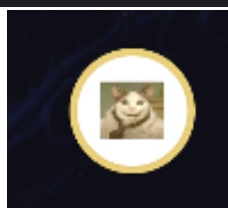
</androidx.constraintlayout.widget.ConstraintLayout>

    android.os.Handler(Looper.getMainLooper()).postDelayed({
        val intent = Intent( packageContext: this,MainActivity::class.java
        startActivity(intent)
    }, delayMillis: 2000)
```



11. Изменения в манифесте

```
<application
    android:allowBackup="true"
    android:dataExtractionRules="@xml/data_extraction_rules"
    android:fullBackupContent="@xml/backup_rules"
    android:icon="@drawable/bu"
    android:label="@string/app_name"
    android:roundIcon="@drawable/bu"
    android:supportsRtl="true"
    android:theme="@style/Theme.Lb9"
    tools:targetApi="31">
    <activity
        android:name=".Splash_screen"
        android:exported="false" />
    <activity
        android:name=".MainActivity"
```



12. Результат:



Калькулятор

13. Далее приступила к веткам

```
graph TD
    A[create_cal_prj] --> B[creat_splash_screen]
    B --> C[Initial commit]
```

Branch	Author	Time
create_cal_prj	kup1tman	2 minutes ago
Initial commit	kup1tman	8 minutes ago