

9.Калькулятор

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Activity_main.xml

```
<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"

android:stretchColumns="*>

<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"
    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" />

```

MainActivity

```

package com.example.myapplication

import android.os.Bundle

import androidx.activity.enableEdgeToEdge
import androidx.appcompat.app.AppCompatActivity
import androidx.core.content.ContextCompat
import androidx.core.view.ViewCompat
import androidx.core.view.WindowInsetsCompat
import com.example.myapplication.databinding.ActivityMainBinding
import net.objecthunter.exp4j.ExpressionBuilder
import java.text.DecimalFormat

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

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        binding = ActivityMainBinding.inflate(layoutInflater)
        enableEdgeToEdge()
        setContentView(binding.root)
    }
}

```

```
ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main)) { v, insets ->
    val systemBars = insets.getInsets(WindowInsetsCompat.Type.systemBars())
    v.setPadding(systemBars.left, systemBars.top, systemBars.right, systemBars.bottom)
    insets
}

binding.buttonClear.setOnClickListener{
    binding.input.text = " "
    binding.output.text = " "
}

binding.buttonBracketLeft.setOnClickListener {
    addToInputText("(")
}

binding.buttonBracketLeft.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.button7.setOnClickListener {
    addToInputText("7")
}

binding.button8.setOnClickListener {
    addToInputText("8")
}

binding.button9.setOnClickListener {
    addToInputText("9")
}

binding.buttonDot.setOnClickListener {
    addToInputText(".")
}

binding.buttonDivision.setOnClickListener {
    addToInputText("/")
}

binding.buttonMultiply.setOnClickListener {
    addToInputText("x")
}

binding.buttonSubtraction.setOnClickListener {
    addToInputText("-")
}

binding.buttonAddition.setOnClickListener {
    addToInputText("+")
}

binding.buttonEquals.setOnClickListener {
    showResult()
}

binding.buttonPercent.setOnClickListener {
    addToInputText("%")
}
}

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

private fun getInputExpression(): String {
    return binding.input.text.toString()// Возвращаем текст из поля ввода
```

```

    }

    private fun showResult() {
        try {
            val expression = getInputExpression().replace("%", "/100") //
            val result = ExpressionBuilder(expression).build().evaluate()

            binding.output.text =
                DecimalFormat("0.#####").format(result).toString()

            binding.output.setTextColor(
                ContextCompat.getColor(
                    this,
                    R.color.neon_green
                )
            )
        } catch (e: Exception) {
            binding.output.text = "Ошибка"

            binding.output.setTextColor(
                ContextCompat.getColor(
                    this,
                    R.color.red
                )
            )
        }
    }
}

```

Build.gradle.kst

```

plugins {
    alias(libs.plugins.android.application)
    alias(libs.plugins.kotlin.android)
}

android {
    namespace = "com.example.myapplication"
    compileSdk = 34

    defaultConfig {
        applicationId = "com.example.myapplication"
        minSdk = 24
        targetSdk = 34
    }
}

```

```

        versionCode = 1

        versionName = "1.0"

        testInstrumentationRunner = "androidx.test.runner.AndroidJUnitRunner"
    }

    buildTypes {
        release {
            isMinifyEnabled = false

            proguardFiles(
                getDefaultProguardFile("proguard-android-optimize.txt"),
                "proguard-rules.pro"
            )
        }
    }

    compileOptions {
        sourceCompatibility = JavaVersion.VERSION_1_8
        targetCompatibility = JavaVersion.VERSION_1_8
    }

    kotlinOptions {
        jvmTarget = "1.8"
    }

    buildFeatures{
        viewBinding = true
    }
}

dependencies {
    implementation (libs.exp4j)

    implementation(libs.androidx.core.ktx)

    implementation(libs.androidx.appcompat)

    implementation(libs.material)

    implementation(libs.androidx.activity)

    implementation(libs.androidx.constraintlayout)

    testImplementation(libs.junit)

    androidTestImplementation(libs.androidx.junit)

    androidTestImplementation(libs.androidx.espresso.core)
}

```

Colors

```
<?xml version="1.0" encoding="utf-8"?>
```

```
<resources>
```

```
    <color name="black">#FF000000</color>
```

```
    <color name="white">#FFFFFFFF</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">#FF7896</color>
```

```
    <color name="pink">#FFC0CB</color>
```

```
    <color name="orange">#FFA888</color>
```

```
    <color name="neon_green">#39FF14</color>
```

```
    <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>
```

```
</resources>
```