# [ 2CEIT5PE5: MOBILE APPLICATION DEVELOPMENT]

Assignment-2



**AIM:** **Create a basic calculator that perform basic operation.**

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## D:\GNU\U V PATEL OF ENGINEERING_LOGO.jpg

## Department of Computer Engineering/Information Technology

**Activity\_main.xml:**

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

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:background = "#ffffff"

android:orientation = 'vertical'

tools:context=".MainActivity" >

<TextView

style = "@style/inp\_out"

android:id="@+id/math\_operation"

android:layout\_height="100sp"

android:ellipsize = "start"

android:textSize="40sp"

/>

<TextView

style = "@style/inp\_out"

android:id="@+id/result\_out"

android:layout\_height="80sp"

android:ellipsize = "end"

android:textSize="35sp"

android:singleLine="true"

/>

<LinearLayout

android:layout\_width="match\_parent"

android:orientation="vertical"

android:layout\_height="match\_parent">

<LinearLayout

style = "@style/linearStyle">

<TextView

style = "@style/actionButton"

android:text="C"

android:id="@+id/btn\_C"

/>

<TextView

style = "@style/actionButton"

android:text="÷"

android:textSize="40sp"

android:id="@+id/btn\_Del"

/>

<TextView

style = "@style/actionButton"

android:text="X"

android:id="@+id/btn\_Ymn"

/>

<TextView

style = "@style/actionButton"

android:text="⌫"

android:id="@+id/btn\_Backspace"

/>

</LinearLayout>

<LinearLayout

style = "@style/linearStyle">

<TextView

style = "@style/numberButton"

android:text="7"

android:id="@+id/btn\_7"

/>

<TextView

style = "@style/numberButton"

android:text="8"

android:id="@+id/btn\_8"

/>

<TextView

style = "@style/numberButton"

android:text="9"

android:id="@+id/btn\_9"

/>

<TextView

style = "@style/actionButton"

android:text="—"

android:textSize="40sp"

android:id="@+id/btn\_Minus"

/>

</LinearLayout>

<LinearLayout

style = "@style/linearStyle">

<TextView

style = "@style/numberButton"

android:text="4"

android:id="@+id/btn\_4"

/>

<TextView

style = "@style/numberButton"

android:text="5"

android:id="@+id/btn\_5"

/>

<TextView

style = "@style/numberButton"

android:text="6"

android:id="@+id/btn\_6"

/>

<TextView

style = "@style/actionButton"

android:text="+"

android:textSize="40sp"

android:id="@+id/btn\_Plus"

/>

</LinearLayout>

<LinearLayout

style = "@style/linearStyle">

<TextView

style = "@style/numberButton"

android:text="1"

android:id="@+id/btn\_1"

/>

<TextView

style = "@style/numberButton"

android:text="2"

android:id="@+id/btn\_2"

/>

<TextView

style = "@style/numberButton"

android:text="3"

android:id="@+id/btn\_3"

/>

<TextView

style = "@style/actionButton"

android:text="+/-"

android:id="@+id/btn\_plusMinus"

/>

</LinearLayout>

<LinearLayout

style = "@style/linearStyle">

<TextView

style = "@style/numberButton"

android:text="%"

android:id="@+id/btn\_Procent"

/>

<TextView

style = "@style/numberButton"

android:text="0"

android:id="@+id/btn\_0"

/>

<TextView

style = "@style/numberButton"

android:text=","

android:id="@+id/btn\_Zup"

/>

<TextView

style = "@style/actionButton"

android:text="="

android:textSize="45sp"

android:textColor="@color/white"

android:background="#0206ed"

android:id="@+id/btn\_End"

/>

</LinearLayout>

</LinearLayout>

</LinearLayout>

**MainActivity.kt:**

package com.example.basecalculator

import android.os.Bundle

import android.util.Log

import android.view.animation.Animation

import android.view.animation.AnimationUtils

import androidx.appcompat.app.AppCompatActivity

import kotlinx.android.synthetic.main.activity\_main.\*

import net.objecthunter.exp4j.ExpressionBuilder

import java.lang.Exception

class MainActivity : AppCompatActivity() {

override fun onCreate(savedInstanceState: Bundle?) {

super.onCreate(savedInstanceState)

setContentView(R.layout.activity\_main)

val alphaAnimation: Animation = AnimationUtils.loadAnimation(this, R.anim.alpha)

btn\_0.setOnClickListener {

btn\_0.startAnimation(alphaAnimation)

if (math\_operation.text.startsWith("0") && math\_operation.length() == 1)

else

setTextFields("0")

}

btn\_1.setOnClickListener {

btn\_1.startAnimation(alphaAnimation)

setTextFields("1")

}

btn\_2.setOnClickListener {

btn\_2.startAnimation(alphaAnimation)

setTextFields("2")

}

btn\_3.setOnClickListener {

btn\_3.startAnimation(alphaAnimation)

setTextFields("3")

}

btn\_4.setOnClickListener {

btn\_4.startAnimation(alphaAnimation)

setTextFields("4")

}

btn\_5.setOnClickListener {

btn\_5.startAnimation(alphaAnimation)

setTextFields("5")

}

btn\_6.setOnClickListener {

btn\_6.startAnimation(alphaAnimation)

setTextFields("6")

}

btn\_7.setOnClickListener {

btn\_7.startAnimation(alphaAnimation)

setTextFields("7")

}

btn\_8.setOnClickListener {

btn\_8.startAnimation(alphaAnimation)

setTextFields("8")

}

btn\_9.setOnClickListener {

btn\_9.startAnimation(alphaAnimation)

setTextFields("9")

}

btn\_Zup.setOnClickListener {

btn\_Zup.startAnimation(alphaAnimation)

setTextFields(".")

}

btn\_Procent.setOnClickListener {

btn\_Procent.startAnimation(alphaAnimation)

setTextFields(("/100"))

}

btn\_Minus.setOnClickListener {

btn\_Minus.startAnimation(alphaAnimation)

setTextFields("-")

}

btn\_Plus.setOnClickListener {

btn\_Plus.startAnimation(alphaAnimation)

setTextFields("+")

}

btn\_Ymn.setOnClickListener {

btn\_Ymn.startAnimation(alphaAnimation)

setTextFields("\*")

}

btn\_plusMinus.setOnClickListener {

btn\_plusMinus.startAnimation(alphaAnimation)

setTextFields("\*(-1)")

}

btn\_Del.setOnClickListener {

btn\_Del.startAnimation(alphaAnimation)

setTextFields("/")

}

btn\_C.setOnClickListener {

btn\_C.startAnimation(alphaAnimation)

math\_operation.text = ""

result\_out.text = ""

}

btn\_Backspace.setOnClickListener {

btn\_Backspace.startAnimation(alphaAnimation)

val strInput = math\_operation.text.toString()

if (strInput.isNotEmpty())

math\_operation.text = strInput.dropLast(1)

result\_out.text = ""

}

btn\_End.setOnClickListener {

btn\_End.startAnimation(alphaAnimation)

try {

val ex = ExpressionBuilder(math\_operation.text.toString()).build() //подключенная библиотека exp4j

val result = ex.evaluate()

val longRes = result.toLong()

if (result == longRes.toDouble()) {

longRes.toDouble()

result\_out.text = longRes.toString().format("%.4f")

}

else

result\_out.text = result.toString()

} catch (e:Exception) {

Log.d("Ошибка", "сообщение: ${e.message}")

}

}

}

private fun setTextFields(str: String){

if (result\_out.text.isNotEmpty()) {

math\_operation.text = result\_out.text

result\_out.text = ""

}

math\_operation.append(str)

}

}

**Output:**

** **

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