Лабораторные работы с 9 по 14

9
Внешний вид калькулятора

```xml
            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"
```

```xml
            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"
```

```xml
            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"
            style="@style/Button_Style"
            android:layout_width="wrap_content"
            android:layout_height="90dp"
```

```xml
            <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"
                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_width="wrap_content"
                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>
</LinearLayout>
```

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

Цвета

```xml
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <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>
    <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="black">#FF000000</color>
    <color name="white">#FFFFFFFF</color>
    <color name="red">#FF3131</color>
    <color name="pink">#FFC0CB</color>
    <color name="orange">#FFA500</color>
    <color name="neon_green">#39FF14</color>
</resources>
```

Работа калькулятора и код

```
binding.button3.setOnClickListener {
    addToInputText( value: "3")
}
binding.button4.setOnClickListener {
    addToInputText( value: "4")
}
binding.button5.setOnClickListener {
    addToInputText( value: "5")
}
binding.button6.setOnClickListener {
    addToInputText( value: "6")
}
binding.button7.setOnClickListener {
    addToInputText( value: "7")
}
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: "*")
}
binding.buttonSubtraction.setOnClickListener {
    addToInputText( value: "-")
}
binding.buttonAddition.setOnClickListener {
    addToInputText( value: "+")
}
binding.buttonEquals.setOnClickListener {
    showResult()
}
binding.buttonPercent.setOnClickListener {
    addToInputText( value: "%")
}
```

```kotlin
class MainActivity : AppCompatActivity() {
    private fun addToInputText(value:String) {
        binding.input.append(value)
    }
    private fun getInputExpression(): String {
        return binding.input.text.toString()
    }


    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        enableEdgeToEdge()
        binding=ActivityMainBinding.inflate(layoutInflater)
        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( value: "(")
        }
        binding.buttonBracketRight.setOnClickListener {
            addToInputText( value: ")")
        }
        binding.button0.setOnClickListener {
            addToInputText( value: "0")
        }
        binding.button1.setOnClickListener {
            addToInputText( value: "1")
        }
        binding.button2.setOnClickListener {
            addToInputText( value: "2")
        }
        binding.button3.setOnClickListener {
            addToInputText( value: "3")
        }
        binding.button4.setOnClickListener {
            addToInputText( value: "4")
        }
        binding.button5.setOnClickListener {
            addToInputText( value: "5")
```

```kotlin
        }
        binding.button9.setOnClickListener {
            addToInputText( value: "9")
        }
        binding.buttonDot.setOnClickListener {
            addToInputText( value: ".")
        }
        binding.buttonDivision.setOnClickListener {
            addToInputText( value: "/")
        }
        binding.buttonMultiply.setOnClickListener {
            addToInputText( value: "*")
        }
        binding.buttonSubtraction.setOnClickListener {
            addToInputText( value: "-")
        }
        binding.buttonAddition.setOnClickListener {
            addToInputText( value: "+")
        }
        binding.buttonEquals.setOnClickListener {
            showResult()
        }
        binding.buttonPercent.setOnClickListener {
            addToInputText( value: "%")
        }
    }

    private fun showResult() {
        try{
            val expression = getInputExpression().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))
        }

    }

}
```

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12

Поля для подтверждения регистрации и код

```xml
<EditText
    android:id="@+id/etSEmailAddress"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginLeft="15dp"
    android:layout_marginTop="30dp"
    android:layout_marginRight="15dp"
    android:autofillHints="emailAddress"
    android:ems="10"
    android:hint="Почта"
    android:inputType="textEmailAddress"
    android:minHeight="48dp"
    android:textColorHint="#757575" />
<EditText
    android:id="@+id/etSPassword"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginLeft="15dp"
    android:layout_marginTop="15dp"
    android:layout_marginRight="15dp"
    android:autofillHints="password"
    android:ems="10"
    android:hint="Пароль"
    android:inputType="textPassword"
    android:minHeight="48dp"
    android:textColorHint="#757575" />
```

```xml
<EditText
    android:id="@+id/etSConfPassword"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginLeft="15dp"
    android:layout_marginTop="15dp"
    android:layout_marginRight="15dp"
    android:autofillHints="password"
    android:ems="10"
    android:hint="Подтвердите пароль"
    android:inputType="textPassword"
    android:minHeight="48dp"
    android:textColorHint="#757575"
    tools:ignore="TextContrastCheck" />
<androidx.appcompat.widget.AppCompatButton
    android:id="@+id/btnSSigned"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="15dp"
    android:textSize="16sp"
    android:background="@color/white"
    android:text="@string/registration" />
<TextView
    android:id="@+id/tvRedirectRegistration"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:gravity="center_horizontal"
    android:layout_margin="10dp"
    android:text="@string/accountexist"
    android:textColor="#18206F"
    android:textSize="16sp" />
```
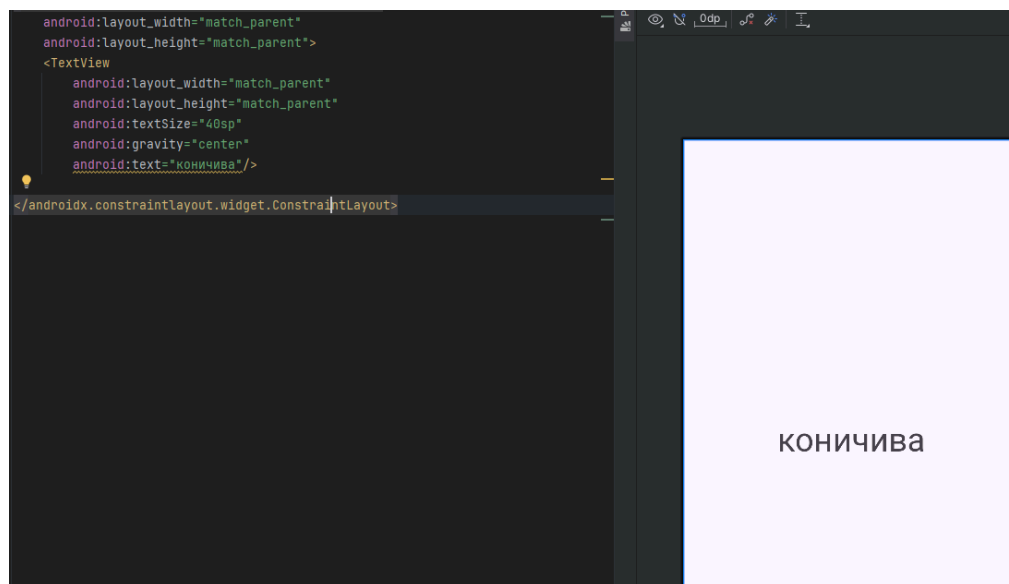
Почта

Пароль

Подтвердите пароль

РЕГИСТРАЦИЯ

Уже есть аккаунт?

Попытка входа

```kotlin
class LoginActivity : AppCompatActivity() {
    private lateinit var tvRedirectSignUp: TextView
    lateinit var etEmail: EditText
    private lateinit var etPass: EditText
    lateinit var btnLogin: Button
    lateinit var auth: FirebaseAuth
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        enableEdgeToEdge()
        setContentView(R.layout.activity_login)
        tvRedirectSignUp = findViewById(R.id.tvRedirectLogin)
        btnLogin = findViewById(R.id.btnLogin)
        etEmail = findViewById(R.id.etEmailAddress)
        etPass = findViewById(R.id.etPassword)
        auth = FirebaseAuth.getInstance()
        btnLogin.setOnClickListener {
            login()
        }
        tvRedirectSignUp.setOnClickListener {
            val intent = Intent( packageContext: this, RegistrationActivity::class.java)
            startActivity(intent)
        }
    }
    private fun login() {
        val email = etEmail.text.toString()
        val pass = etPass.text.toString()
        auth.signInWithEmailAndPassword(email,pass).addOnCompleteListener(this){
            if (it.isSuccessful) {
                Toast.makeText( context: this, text: "Вход успешен!", Toast.LENGTH_SHORT).show()
                val newIntent = Intent( packageContext: this, HomeActivity::class.java)
                startActivity(newIntent)
```

```kotlin
            } else
                Toast.makeText( context: this, text: "Ошибка входа ", Toast.LENGTH_SHORT).show()
        }
    }
}
```

```xml
    android:layout_width="match_parent"
    android:layout_height="match_parent">
<TextView
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:textSize="40sp"
    android:gravity="center"
    android:text="коничива"/>
</androidx.constraintlayout.widget.ConstraintLayout>
```

коничива

Нет аккаунта???

```xml
<EditText
    android:id="@+id/etEmailAddress"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginLeft="15dp"
    android:layout_marginTop="30dp"
    android:layout_marginRight="15dp"
    android:autofillHints="emailAddress"
    android:ems="10"
    android:hint="Почта"
    android:inputType="textEmailAddress"
    android:minHeight="48dp"
    android:textColorHint="#757575" />
<EditText
    android:id="@+id/etPassword"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginLeft="15dp"
    android:layout_marginTop="15dp"
    android:layout_marginRight="15dp"
    android:autofillHints="password"
    android:ems="10"
    android:hint="Пароль"
    android:inputType="textPassword"
    android:minHeight="48dp"
    android:textColorHint="#757575" />
<androidx.appcompat.widget.AppCompatButton
    android:id="@+id/btnLogin"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="15dp"
    android:textSize="16sp"
    android:background="@color/white"
    android:text="ВХОД" />
```

```xml
<TextView
    android:id="@+id/tvRedirectLogin"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:focusable="true"
    android:gravity="center_horizontal"
    android:layout_margin="10dp"
    android:clickable="true"
    android:text="Нет аккаунта?"
    android:textColor="#18206F"
    android:textSize="16sp" />
```

```xml
android:text="Вход" />
<TextView
    android:id="@+id/tvRedirect
    android:layout_width="match
    android:layout_height="wrap
    android:focusable="true"
    android:gravity="center_hor
```

```kotlin
class RegistrationActivity : AppCompatActivity() {
    lateinit var etEmail: EditText
    lateinit var etConfPass: EditText
    private lateinit var etPass: EditText
    private lateinit var btnSignUp: Button
    lateinit var tvRedirect: TextView

    private lateinit var auth: FirebaseAuth
```

```kotlin
        enableEdgeToEdge()
        setContentView(R.layout.activity_main)
        etEmail = findViewById(R.id.etSEmailAddress)
        etConfPass = findViewById(R.id.etSConfPassword)
        etPass = findViewById(R.id.etSPassword)
        btnSignUp = findViewById(R.id.btnSSigned)
        tvRedirect = findViewById(R.id.tvRedirectRegistration)
        auth = Firebase.auth
        btnSignUp.setOnClickListener {
            singUpUser()
        }
        tvRedirect.setOnClickListener {
            intent = Intent( packageContext: this, LoginActivity::class.java)
            startActivity(intent)
        }
    }

    private fun singUpUser() {
        val email = etEmail.text.toString()
        val pass = etPass.text.toString()
        val confPass = etConfPass.text.toString()
        if (email.isBlank() || pass.isBlank() || confPass.isBlank()) {
            Toast.makeText(
                context: this, text: "Почта и пароль не могут быть пустыми",
                Toast.LENGTH_SHORT
            ).show()
            return
        }
        if (pass != confPass) {
            Toast.makeText( context: this, text: "Пароль и пароль подтверждения не совпадают", Toast.LENGTH_SHORT)
                .show()
            return
        }

        auth.createUserWithEmailAndPassword(email, pass).addOnCompleteListener(this) {
            if (it.isSuccessful) {
                Toast.makeText( context: this, text: "Регистрация успешна", Toast.LENGTH_SHORT).show()
                intent = Intent( packageContext: this, HomeActivity::class.java)
                startActivity(intent)
            } else {
                Toast.makeText( context: this, text: "Ошибка регистрации", Toast.LENGTH_SHORT).show()
```

13

Анимация и картинка

```xml
<?xml version="1.0" encoding="utf-8"?>
<set xmlns:android="http://schemas.android.com/apk/res/android"
    android:interpolator="@android:anim/linear_interpolator">
    <scale android:fromXScale="1.0" android:toXScale="0.5"
        android:fromYScale="1.0" android:toYScale="0.5"
        android:pivotX="50%" android:pivotY="50%" android:duration="4500"
        android:repeatCount="infinite" android:repeatMode="reverse" />
    <rotate
        android:fromDegrees="0.0"
        android:toDegrees="240.0"
        android:pivotX="50%"
        android:pivotY="50%" />
    <alpha android:fromAlpha="1.0" android:toAlpha="0.0"
        android:duration="250"
        android:repeatCount="infinite"
        android:repeatMode="reverse" />
    <translate android:fromXDelta="0.0"
        android:toXDelta="100.0"
        android:fromYDelta="20.0"
        android:toYDelta="120.0"
        android:duration="250"
        android:repeatMode="reverse"
        android:repeatCount="infinite" />
</set>
```
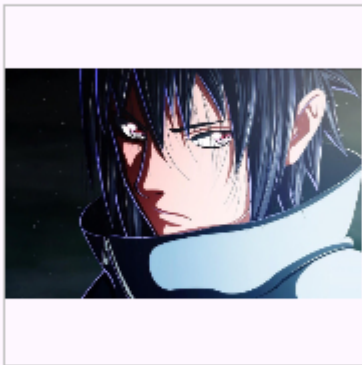
```xml
    <ImageView
        android:id="@+id/ivAnimCat"
        android:layout_width="200dp"
        android:layout_height="200dp"
        android:src="@drawable/saske"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />


</androidx.constraintlayout.widget.ConstraintLayout>
```

```kotlin
class MainActivity : AppCompatActivity() {
    @SuppressLint("MissingInflatedId")
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        enableEdgeToEdge()
        setContentView(R.layout.activity_main)
        val imgsaske : ImageView = findViewById(R.id.animeSaske)
        val anim : Animation = AnimationUtils.loadAnimation( context: this,R.anim.animation_new)
        imgsaske.startAnimation(anim)
    }
}
```

14 Список с добавлением

```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:id="@+id/main">
    <androidx.recyclerview.widget.RecyclerView
        android:id="@+id/recyclerView"
        android:layout_width="match_parent"
        android:layout_height="match_parent"/>
    <com.google.android.material.floatingactionbutton.FloatingActionButton
        android:id="@+id/fab"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_margin="16dp"
        android:src="@drawable/baseline_add_24"/>
</RelativeLayout>
```

```kotlin
class MainActivity : AppCompatActivity() {
    private lateinit var recyclerView: RecyclerView
    private lateinit var fab: FloatingActionButton
    private val items: MutableList<RouteListingPreference.Item> = mutableListOf()
    private lateinit var adapter: ItemAdapter
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        enableEdgeToEdge()
        setContentView(R.layout.activity_main)
        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
        }
        recyclerView = findViewById(R.id.recyclerView)
        fab = findViewById(R.id.fab)
        adapter = ItemAdapter(items)
        recyclerView.layoutManager = LinearLayoutManager( context: this)
        recyclerView.adapter = adapter
        adapter = ItemAdapter(items)
        recyclerView.layoutManager = LinearLayoutManager( context: this)
        recyclerView.adapter = adapter
        fab.setOnClickListener {
            showInputDialog()
        }
    }
    private fun showInputDialog() {
        val builder = AlertDialog.Builder( context: this)
        builder.setTitle("Добавить элемент")
        val input = EditText( context: this)
        builder.setView(input)
        builder.setPositiveButton( text: "Добавить") { dialog, _ ->
            val text = input.text.toString()
            if (text.isNotEmpty()) {
                items.add(Item(text))
                adapter.notifyItemInserted( position: items.size - 1)
            }
```

```
        }
        dialog.dismiss()
    }
    builder.setNegativeButton( text: "Отмена") { dialog, _ -> dialog.
    builder.show()
  }
}
```

tem 0
tem 1
tem 2
tem 3
tem 4
tem 5
tem 6
tem 7
tem 8
tem 9

+

Добавленный объект

```xml
<androidx.constraintlayout.widget.ConstraintLayout                    ⚠2 ⚠1 ^ ˅
    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="wrap_content">
    <TextView
        android:id="@+id/txt1"
        android:layout_width="0dp"
        android:layout_height="64dp"
        android:layout_marginTop="16dp"
        android:text="test"
        android:textSize="40sp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

```kotlin
class ItemAdapter(private val item: List<RouteListingPreference.Item>) :
    RecyclerView.Adapter<ItemAdapter.ItemViewHolder>(){
    class ItemViewHolder(view: View) : RecyclerView.ViewHolder(view) {
        val textView : TextView = view.findViewById(R.id.txt1)
    }
    override fun onCreateViewHolder(parent: ViewGroup, viewType: Int):
            ItemViewHolder {
        val view =
            LayoutInflater.from(parent.context).inflate(R.layout.item_rec, parent, attachToRoot: false
        return ItemViewHolder(view)
    }
    override fun onBindViewHolder(holder: ItemViewHolder, position: Int) {
        holder.textView.text = item[position].text
    }
    override fun getItemCount(): Int {
        return item.size
    }
}
```

test

```
data class Item(
    val text: String
)
```

11 (Работа с API)
Ключ взял у Кирилла (не бейте сильно)

```kotlin
class MainActivity : AppCompatActivity() {
    var api_key = "adb5136f877fca4162fd4da66b3b1c16"
    private lateinit var btVar1: Button
    private lateinit var textView: TextView
    private lateinit var fusedLocationClient: FusedLocationProviderClient
    private val LOCATION_PERMISSION_REQUEST_CODE = 1
    @SuppressLint("MissingInflatedId")
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        enableEdgeToEdge()
        setContentView(R.layout.activity_main)
//        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
//        }
        textView = findViewById(R.id.textF)
        btVar1 = findViewById(R.id.btVar1)
        fusedLocationClient =
            LocationServices.getFusedLocationProviderClient( activity: this)
        btVar1.setOnClickListener {
            checkForPermission()
        }
    }
    //Метод для проверки наличия разрешений
    private fun checkForPermission() {
        if (ActivityCompat.checkSelfPermission( context: this,
                Manifest.permission.ACCESS_FINE_LOCATION) !=
            PackageManager.PERMISSION_GRANTED &&
            ActivityCompat.checkSelfPermission( context: this,
                Manifest.permission.ACCESS_COARSE_LOCATION) !=
            PackageManager.PERMISSION_GRANTED) {
            ActivityCompat.requestPermissions( activity: this,
                arrayOf(Manifest.permission.ACCESS_FINE_LOCATION,
                    Manifest.permission.ACCESS_COARSE_LOCATION),
                LOCATION_PERMISSION_REQUEST_CODE)
        } else {
            obtainLocation()
```

```kotlin
                        Array<out String>, grantResults: IntArray) {
        super.onRequestPermissionsResult(requestCode, permissions,
            grantResults)
        if (requestCode == LOCATION_PERMISSION_REQUEST_CODE) {
            if ((grantResults.isNotEmpty() && grantResults[0] ==
                    PackageManager.PERMISSION_GRANTED)) {
                // Получаем местоположение
                obtainLocation()
            } else {
                Toast.makeText( context: this, text: "Разрешение отклонено",
                    Toast.LENGTH_SHORT).show()
            }
        }
    }
    @SuppressLint("MissingPermission")
    private fun obtainLocation() {
        fusedLocationClient.lastLocation
            .addOnSuccessListener { location: Location? ->
                if (location != null) {
                    val weatherUrl =
                        "https://api.openweathermap.org/data/2.5/weather?lat=${location.latitude}&lon=${location.longitude}&units=metric&appid=${api_key}"
                    getTemp(weatherUrl)
                } else {
                    Toast.makeText( context: this, text: "Не удалось получить местоположение", Toast.LENGTH_SHORT).show()
                }
            }
            .addOnFailureListener {
                Toast.makeText( context: this, text: "Location Permission not granted",
                    Toast.LENGTH_SHORT).show()
            }
    }
    private fun getTemp(url: String) {
        val queue = Volley.newRequestQueue( context: this)
        val stringReq = StringRequest(
            Request.Method.GET, url, { response ->
                val obj = JSONObject(response)
                val main: JSONObject = obj.getJSONObject( name: "main")
                val temperature = main.getString( name: "temp")
                println(temperature)
                val city = obj.getString( name: "name")
                println(city)
                textView.text = "${temperature} Градусов по цельсию в ${city}"
```

```kotlin
                val city = obj.getString( name: "name")
                println(city)
                textView.text = "${temperature} Градусов по цельсию в ${city}"
                System.out.println(obj.toString())
            },
            { textView.text = "Ошибка!" })
        queue.add(stringReq)
    }
}
```

Андроид манифест

```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">
    <uses-permission android:name="android.permission.ACCESS_COARSE_LOCATION"/>
    <uses-permission android:name="android.permission.ACCESS_FINE_LOCATION"/>
    <uses-permission android:name="android.permission.INTERNET"/>
    <permission android:name="android.permission.ACCESS_COARSE_LOCATION"
        tools:ignore="ReservedSystemPermission" />
    <permission android:name="android.permission.ACCESS_FINE_LOCATION"
        tools:ignore="ReservedSystemPermission" />
    <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:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Ex11"
        tools:targetApi="31">
        <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>
```

Фейс программы

```xml
<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="h
    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="MainActivity">
    <TextView
        android:id="@+id/textF"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/tempInCity"
        android:textSize="36sp"
        android:textStyle="bold"
        android:textAlignment="center"
        android:layout_marginTop="50dp"
        android:paddingHorizontal="20dp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/btVar1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginBottom="32dp"
        android:background="@drawable/shapeforbut"
        android:clickable="true"
        android:focusable="true"
        android:text="УЗНАТЬ ПОГОДУ"
        android:textSize="24sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent" />


</androidx.constraintlayout.widget.ConstraintLayout>
```

-6.68 Градусов
по цельсию в
Blagoveshchensk