Лабораторная работа № 1.

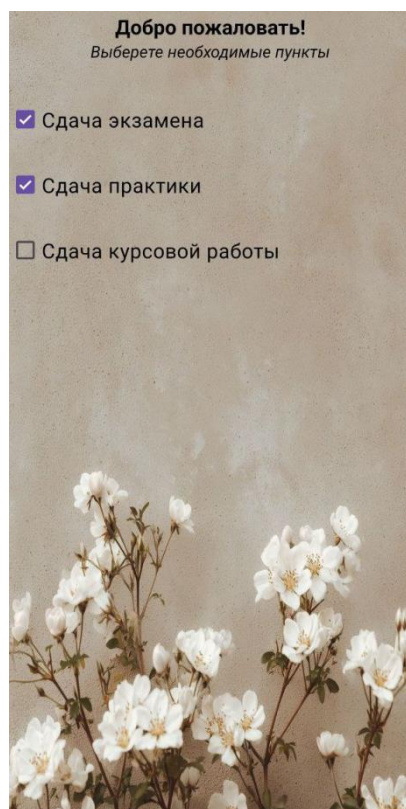## Практическая работа CheckBox

```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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="@drawable/fff"
    android:padding="16dp"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/titleTextView"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:text="Добро пожаловать!"
        android:textAllCaps="false"
        android:textColor="@color/black"
        android:textSize="20sp"
        android:textStyle="bold"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <TextView
        android:id="@+id/subtitleTextView"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:text="Выберете необходимые пункты"
        android:textAllCaps="false"
        android:textColor="@color/black"
        android:textSize="16sp"
        android:textStyle="italic"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/titleTextView" />

    <CheckBox
        android:id="@+id/examCheckBox"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_marginTop="32dp"
        android:text="Сдача экзамена"
        android:textAllCaps="false"
        android:textColor="@color/black"
        android:textSize="20sp"
        android:textStyle="normal"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/subtitleTextView" />
```

```
54        <CheckBox
55            android:id="@+id/practiceCheckBox"
56            android:layout_width="0dp"
57            android:layout_height="wrap_content"
58            android:layout_marginTop="16dp"
59            android:text="Сдача практики"
60            android:textAllCaps="false"
61            android:textColor="@color/black"
62            android:textSize="20sp"
63            android:textStyle="normal"
64            app:layout_constraintEnd_toEndOf="parent"
65            app:layout_constraintHorizontal_bias="0.0"
66            app:layout_constraintStart_toStartOf="parent"
67            app:layout_constraintTop_toBottomOf="@+id/examCheckBox" />
68
69        <CheckBox
70            android:id="@+id/courseworkCheckBox"
71            android:layout_width="0dp"
72            android:layout_height="wrap_content"
73            android:layout_marginTop="16dp"
74            android:text="Сдача курсовой работы"
75            android:textAllCaps="false"
76            android:textColor="@color/black"
77            android:textSize="20sp"
78            android:textStyle="normal"
79            app:layout_constraintEnd_toEndOf="parent"
80            app:layout_constraintStart_toStartOf="parent"
81            app:layout_constraintTop_toBottomOf="@+id/practiceCheckBox" />
82
83    </androidx.constraintlayout.widget.ConstraintLayout>
84
```


Практическая работа «Приложение секундомер»

Запустить у меня не получилось(((

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/andr
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:gravity="center"
    android:padding="16dp"
    android:background="@drawable/cvb"
    tools:context=".MainActivity">


    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Секундомер"
        android:textSize="32sp"
        android:textStyle="bold"
        android:textColor="@color/black"
        android:layout_marginBottom="50dp" />


    <TextView
        android:id="@+id/tvTimer"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="00:00"
        android:textSize="48sp"
        android:textStyle="bold"
        android:textColor="@color/black"
        android:layout_marginBottom="50dp" />


    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:gravity="center">


        <Button
            android:id="@+id/btnStart"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Start"
            android:layout_margin="8dp"
            android:padding="16dp"
            android:backgroundTint="@color/black"/>
```

```xml
        <Button
            android:id="@+id/btnPause"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Pause"
            android:layout_margin="8dp"
            android:padding="16dp"
            android:backgroundTint="@color/black"/>


        <Button
            android:id="@+id/btnReset"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Reset"
            android:layout_margin="8dp"
            android:padding="16dp"
            android:backgroundTint="@color/black"/>

    </LinearLayout>

</LinearLayout>
```

activity_main.xml   MainActivity.java   MainActivity.kt ×

```kotlin
import android.os.Bundle
import android.os.Handler
import android.os.Looper
import android.widget.Button
import android.widget.TextView
import androidx.appcompat.app.AppCompatActivity
import com.example.myapplication.R

class MainActivity : AppCompatActivity() {


    2 Usages
    private lateinit var tvTimer: TextView
    2 Usages
    private lateinit var btnStart: Button
    2 Usages
    private lateinit var btnPause: Button
    2 Usages
    private lateinit var btnReset: Button


    6 Usages
    private var seconds = 0
    9 Usages
    private var isRunning = false
    4 Usages
    private var wasRunning = false


    2 Usages
    private val handler = Handler(Looper.getMainLooper())


    1 Usage
    private val runnable = object : Runnable {
        override fun run() {
            if (isRunning) {
                seconds++
                updateTimerView()
            }

            handler.postDelayed( r = this, delayMillis = 1000)
        }
    }

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


        initViews()


        if (savedInstanceState != null) {
            seconds = savedInstanceState.getInt( key = "seconds")
            isRunning = savedInstanceState.getBoolean( key = "isRunning")
            wasRunning = savedInstanceState.getBoolean( key = "wasRunning")
```

```kotlin
51                      updateTimerView()
52                  }
53
54          override fun onResume() {
55              super.onResume()
56
57              if (wasRunning) {
58                  isRunning = true
59              }
60
61              handler.post( r = runnable)
62          }
63
64          override fun onPause() {
65              super.onPause()
66
67              wasRunning = isRunning
68              isRunning = false
69          }
70
71          override fun onSaveInstanceState(outState: Bundle) {
72              super.onSaveInstanceState(outState)
73
74              outState.putInt("seconds", seconds)
75              outState.putBoolean("isRunning", isRunning)
76              outState.putBoolean("wasRunning", wasRunning)
77          }
78
```

activity_main.xml   MainActivity.java   MainActivity.kt ✕

```kotlin
9       class MainActivity : AppCompatActivity() {
        1 Usage
80          private fun initViews() {
81
82              tvTimer = findViewById( id = R.id.tvTimer)
83              btnStart = findViewById( id = R.id.btnStart)
84              btnPause = findViewById( id = R.id.btnPause)
85              btnReset = findViewById( id = R.id.btnReset)
86
87
88              btnStart.setOnClickListener {
89                  startTimer()
90              }
91
92              btnPause.setOnClickListener {
93                  pauseTimer()
94              }
95
96              btnReset.setOnClickListener {
97                  resetTimer()
98              }
99          }
100
        1 Usage
101         private fun startTimer() {
102             isRunning = true
103         }
104
```

```kotlin
        1 Usage
105         private fun pauseTimer() {
106             isRunning = false
107         }
108
        1 Usage
109         private fun resetTimer() {
110             isRunning = false
111             seconds = 0
112             updateTimerView()
113         }
114
        3 Usages
115         private fun updateTimerView() {
116
117             val minutes = seconds / 60
118             val secs = seconds % 60
119
120
121             val time = String.format("%02d:%02d", minutes, secs)
122
123
124             tvTimer.text = time
125         }
126      }
```

Секундомер

00:00

Start   Pause   Reset