

GUI Components

Aim

Develop an application to change the font and color of the text and display toast message when the user presses the button.

Procedure:

- Open `activity_main.xml` in Android Studio.
- Select the required **UI component** (Button, TextView, EditText).
- Change **text size** using `textSize` attribute.
- Change **text color** using `textColor` attribute.
- Change **background color** using `background` attribute.
- Preview the changes in **Design view**.
- Run the app to see the updated UI components.

AndroidManifest.xml

The screenshot shows the Android Studio interface with the project 'FirstApp' open. The left sidebar displays the project structure, including the app module and its sub-directories like build, src, and res. The main editor window shows the XML file 'AndroidManifest.xml'. The code is as follows:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">

    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="FirstApp"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.FirstApp">
        <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>
```

The status bar at the bottom indicates the file is 1:7, LF, UTF-8, with 4 spaces.

Activity_main.xml

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:orientation="vertical"
    android:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/Text1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:text="Rajalakshmi Engineering College"
        android:textSize="30sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/button1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Change Text Colour"
        android:textSize="20sp"
        tools:layout_editor_absoluteY="144dp" />

    <Button
        android:id="@+id/button2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Change Font Size"
        android:textSize="20sp"
        tools:layout_editor_absoluteY="144dp" />
</LinearLayout>
```

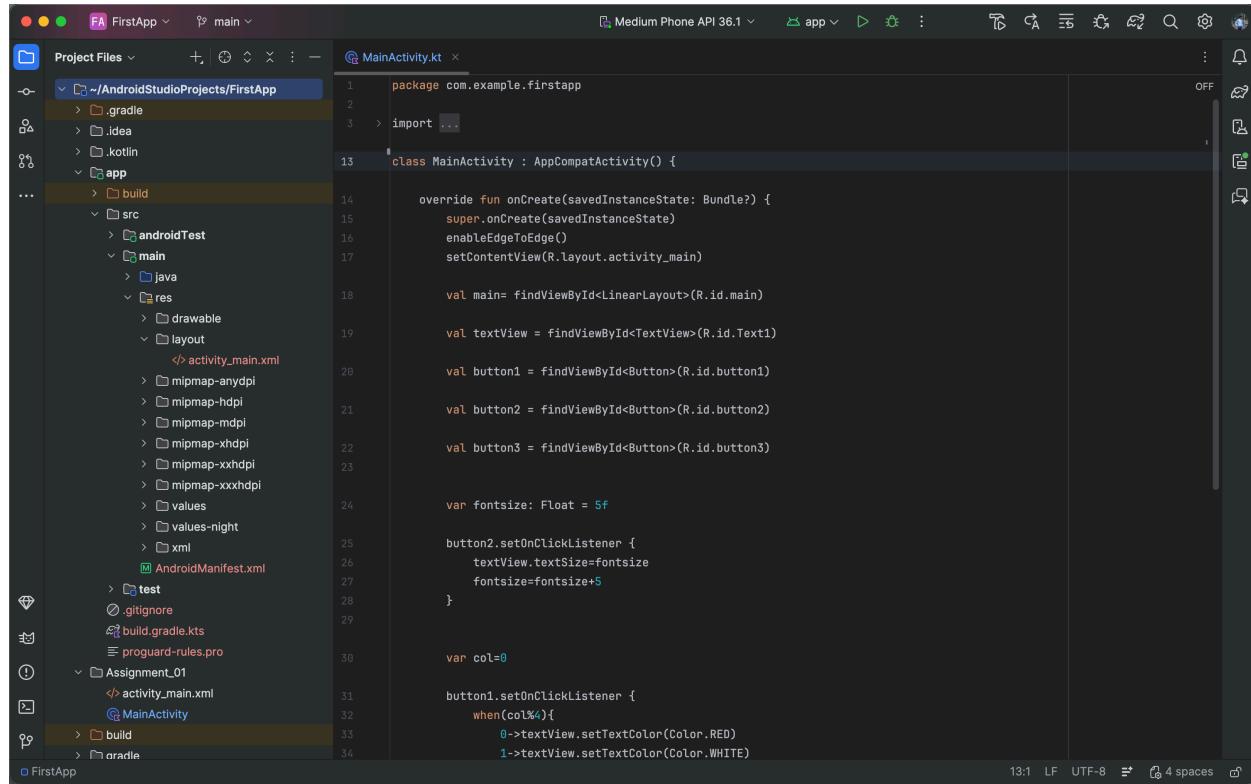
```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res-auto"
    app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/button1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Change Text Colour"
        android:textSize="20sp"
        tools:layout_editor_absoluteX="-31dp"
        tools:layout_editor_absoluteY="144dp" />

    <Button
        android:id="@+id/button2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Change Font Size"
        android:textSize="20sp"
        tools:layout_editor_absoluteX="159dp"
        tools:layout_editor_absoluteY="200dp" />

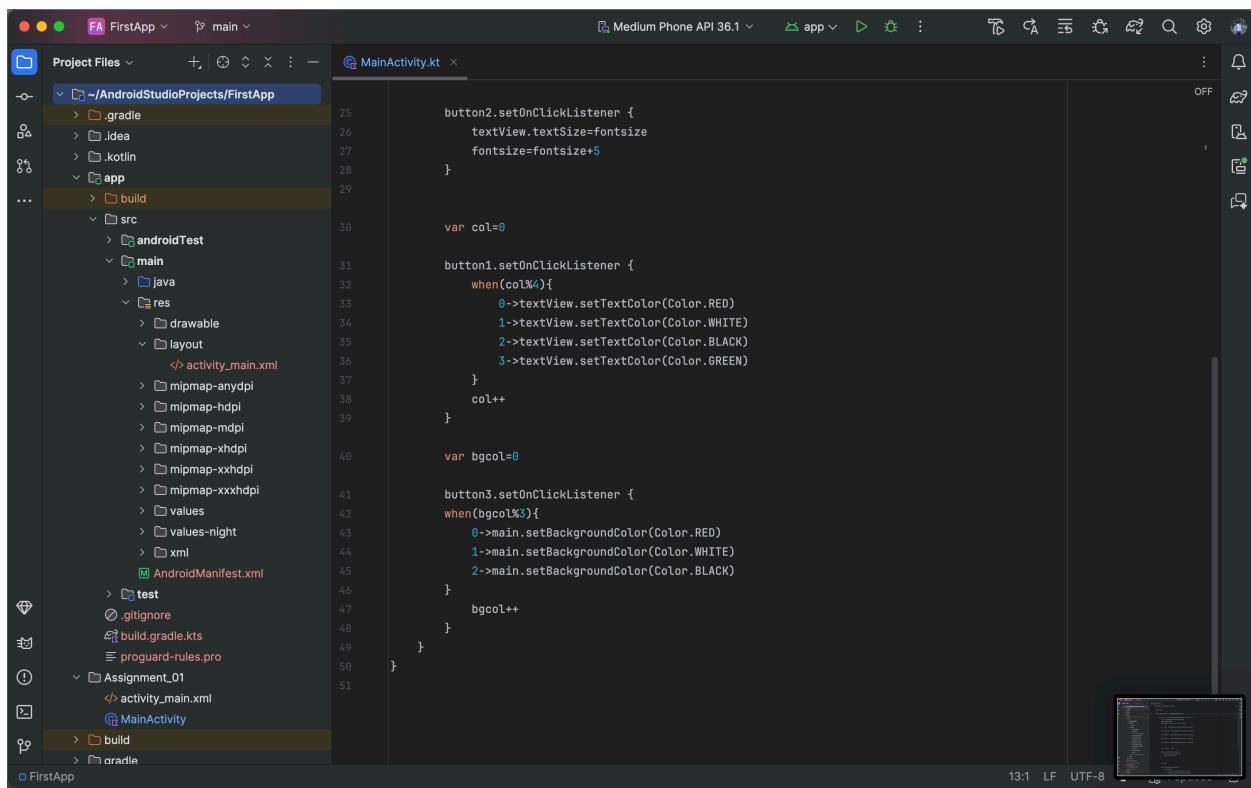
    <Button
        android:id="@+id/button3"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Change Background Colour"
        android:textSize="20sp"
        tools:layout_editor_absoluteX="160dp"
        tools:layout_editor_absoluteY="259dp" />
</LinearLayout>
```

MainActivity.kt



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```
1 package com.example.firstapp
2
3 import ...
4
5 class MainActivity : AppCompatActivity() {
6
7     override fun onCreate(savedInstanceState: Bundle?) {
8         super.onCreate(savedInstanceState)
9         enableEdgeToEdge()
10        setContentView(R.layout.activity_main)
11
12        val main= findViewById<LinearLayout>(R.id.main)
13
14        val textView = findViewById<TextView>(R.id.Text1)
15
16        val button1 = findViewById<Button>(R.id.button1)
17
18        val button2 = findViewById<Button>(R.id.button2)
19
20        val button3 = findViewById<Button>(R.id.button3)
21
22        var fontsize: Float = 5f
23
24        button2.setOnClickListener {
25            textView.setTextSize(fontsize)
26            fontsize+=5
27        }
28
29        var col=0
30
31        button1.setOnClickListener {
32            when(col%4){
33                0->textView.setTextColor(Color.RED)
34                1->textView.setTextColor(Color.WHITE)
35                2->textView.setTextColor(Color.BLACK)
36                3->textView.setTextColor(Color.GREEN)
37            }
38            col++
39        }
40
41        var bgcol=0
42
43        button3.setOnClickListener {
44            when(bgcol%3){
45                0->main.setBackgroundColor(Color.RED)
46                1->main.setBackgroundColor(Color.WHITE)
47                2->main.setBackgroundColor(Color.BLACK)
48            }
49            bgcol++
50        }
51    }
52}
```



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12        val main= findViewById<LinearLayout>(R.id.main)
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14        val textView = findViewById<TextView>(R.id.Text1)
15
16        val button1 = findViewById<Button>(R.id.button1)
17
18        val button2 = findViewById<Button>(R.id.button2)
19
20        val button3 = findViewById<Button>(R.id.button3)
21
22        var fontsize: Float = 5f
23
24        button2.setOnClickListener {
25            textView.setTextSize(fontsize)
26            fontsize+=5
27        }
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29        var col=0
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32            when(col%4){
33                0->textView.setTextColor(Color.RED)
34                1->textView.setTextColor(Color.WHITE)
35                2->textView.setTextColor(Color.BLACK)
36                3->textView.setTextColor(Color.GREEN)
37            }
38            col++
39        }
40
41        var bgcol=0
42
43        button3.setOnClickListener {
44            when(bgcol%3){
45                0->main.setBackgroundColor(Color.RED)
46                1->main.setBackgroundColor(Color.WHITE)
47                2->main.setBackgroundColor(Color.BLACK)
48            }
49            bgcol++
50        }
51    }
52}
```

Output : Result: Successfully done

