

Ex. No. : 01

Date: 04/05/2025

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## GUI Components

### Aim

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

### *Procedure:*

#### **Step 1: Setting Up the Development Environment**

1. Install Android Studio: If you haven't already, download and install Android Studio from the official Android Developer website.

2. Create a New Project:

- o Open Android Studio and select "New Project".

- o Choose "Empty Activity".

- o Name your project (e.g., "TextModifierApp") and specify your package name. o Choose Kotlin as the programming language.

- o Select a minimum API level (e.g., API 21: Android 5.0 Lollipop) that supports your app's requirements.

#### **Step 2: Designing the User Interface**

1. Open activity\_main.xml: Navigate to app > res > layout > activity\_main.xml. This is where you will design your app's UI.

2. Add UI Elements: Use the Design view or directly edit the XML to include a TextView for the text display and a Button to trigger the font and color change.

Optionally, add another Button for showing the toast message.

#### **Step 3: Implementing MainActivity**

1. Open MainActivity.kt: This file is located in app > java > [your\_package\_name] > MainActivity.kt.



2. Add Variables and Functions: Define variables for your TextView and Buttons. Implement the logic for changing the font size and color, and for showing the toast message.

#### **Step 4: Running Your Application**

1. Choose a Device: Select an Android device or emulator to run your app.
2. Run the App: Click on the "Run" button in Android Studio. This will build your application and install it on the selected device.
3. Interact with Your App: Tap the "Change Font & Color" button to change the font size and color of the text. Tap the "Show Toast" button to display a toast message.



## *AndroidManifest.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">

    <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.Exp1"
        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>
```



### *Activity\_main.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:padding="20dp">

    <TextView
        android:id="@+id/myTextView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello, Change Me!"
        android:textSize="24sp"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="100dp"/>

    <Button
        android:id="@+id/changeFontButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Change Font"
        android:layout_centerHorizontal="true"
        android:layout_below="@id/myTextView"
        android:layout_marginTop="50dp"/>

    <Button
        android:id="@+id/changeColorButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Change Color"
```



```
android:layout_centerHorizontal="true"  
android:layout_below="@id/changeFontButton"  
android:layout_marginTop="20dp"/>
```

```
</RelativeLayout>
```



### ***MainActivity.kt***

```
package com.example.exp_1
import android.graphics.Color
import android.graphics.Typeface
import android.os.Bundle
import android.widget.Button
import android.widget.TextView
import android.widget.Toast
import androidx.appcompat.app.AppCompatActivity

class MainActivity : AppCompatActivity() {

    private lateinit var myTextView: TextView
    private lateinit var changeFontButton: Button
    private lateinit var changeColorButton: Button

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

        myTextView = findViewById(R.id.myTextView)
        changeFontButton = findViewById(R.id.changeFontButton)
        changeColorButton = findViewById(R.id.changeColorButton)

        changeFontButton.setOnClickListener {
            // Change font style to bold italic
            myTextView.setTypeface(null, Typeface.BOLD_ITALIC)

            // Show a toast
            Toast.makeText(this, "Font changed!", Toast.LENGTH_SHORT).show()
        }
    }
}
```



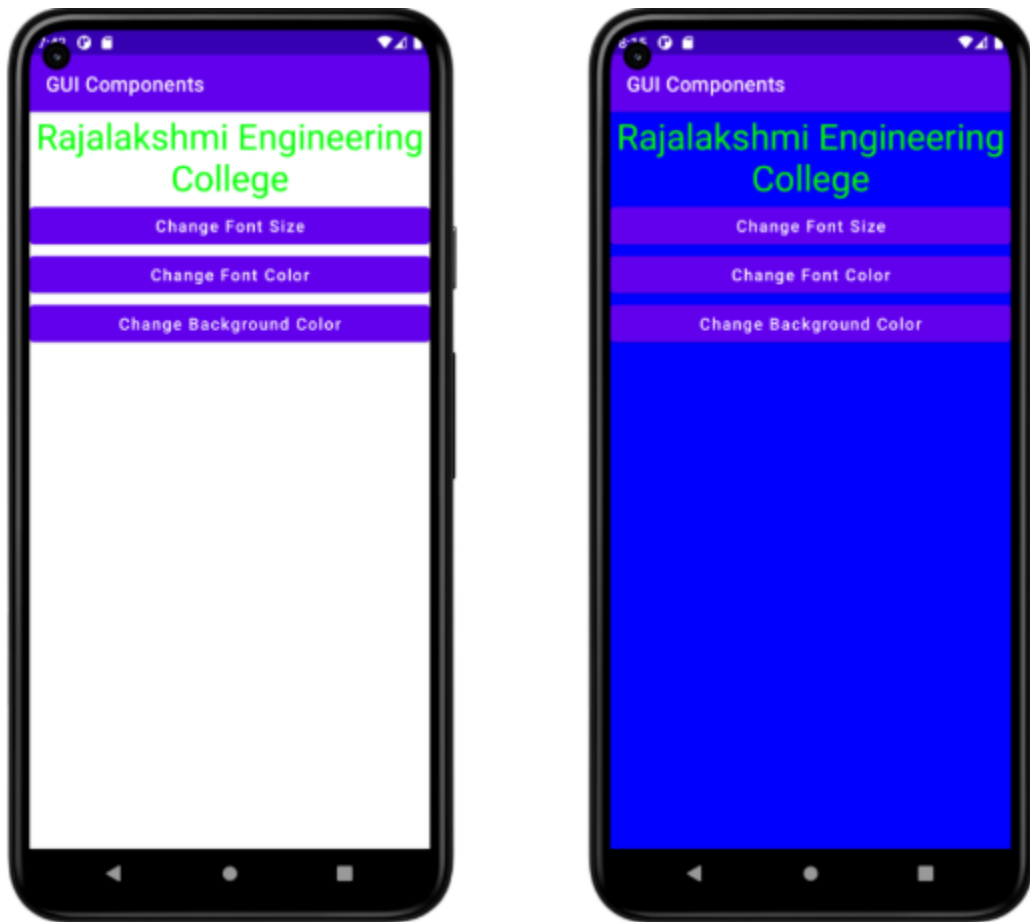
```
}

changeColorButton.setOnClickListener {
    // Change text color
    myTextView.setTextColor(Color.parseColor("#FF0000")) // Indigo color

    // Show a toast
    Toast.makeText(this, "Color changed!", Toast.LENGTH_SHORT).show()
}
}
}
```



## *Output*



## **Result:**

The app changes the font and color of the text and displays a toast message when the button is pressed and it is verified successfully.

