

Ex. No. : 01

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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:

Step 1 : File -> NewProject

Provide the application name and Click “Next”

Step 2 : Select the target android devices

Select the minimum SDK to run the application. Click “Next”.

Step 3 : Choose the activity for the application (By default choose “Blank Activity”).

Click “Next”.

Step 4 : Enter activity name and click “Finish”.

Step 5 : Edit the program.

Step 6 : Run the application, 2-ways to run the application.

1. Running through emulator
2. Running through mobile device

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.Ex1" 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"?>
<LinearLayout

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

    android:layout_width="match_parent"
```

```
android:layout_height="match_parent"
```

```
android:orientation="vertical"
```

```
android:gravity="center"
```

```
android:padding="16dp">
```

```
<TextView
```

```
android:id="@+id/textView"
```

```
android:layout_width="wrap_content"
```

```
android:layout_height="wrap_content"
```

```
android:text="Hello,  
World!"
```

```
android:textSize="24sp"
```

```
android:textColor="#000000"
```

```
/>
```

```
<Button
```

```
android:id="@+id/buttonChangeFont"
```

```
android:layout_width="wrap_content"
```

```
android:layout_height="wrap_content"
android:text="Change
Font"
```

```
android:layout_marginTop
="24dp"
/>
```

```
<Button
```

```
android:id="@+id/buttonChangeColor"
```

```
android:layout_width="wrap_content"
```

```
android:layout_height="wrap_content"
android:text="Change
Color"
```

```
android:layout_marginTop
="16dp"
/>
```

```
</LinearLayout>
```

MainActivity.kt

```
package com.example.ex1
```

```
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.A
ppCompatActivity
```

```
class MainActivity :
AppCompatActivity() {
```

```
    private lateinit var
textView: TextView
    private lateinit var
buttonChangeFont: Button
    private lateinit var
buttonChangeColor:
Button
```

```
    private var fontToggle =
false    private var
colorIndex = 0
```

```
    // Define multiple colors
    private val colors = listOf(
        Color.RED,
        Color.BLUE,
```

```

        Color.GREEN,
        Color.MAGENTA,
        Color.CYAN,

        Color.parseColor("#FFA500
    ") // Orange
    )

    override fun
    onCreate(savedInstanceState: Bundle?) {

        super.onCreate(savedInstanceState)

        setContentView(R.layout.a
            ctivity_main)

        textView =
            findViewById(R.id.textView
        )

        buttonChangeFont =
            findViewById(R.id.buttonC
            hangeFont)

        buttonChangeColor =
            findViewById(R.id.buttonC
            hangeColor)

        buttonChangeFont.setOnC
            lickListener {
                if (!fontToggle) {

```

```

textView.setTypeface(null,
Typeface.BOLD_ITALIC)
        } else {

textView.setTypeface(null,
Typeface.NORMAL)
        }
        fontToggle =
!fontToggle

Toast.makeText(this, "Font
changed!",
Toast.LENGTH_SHORT).s
how()
        }

```

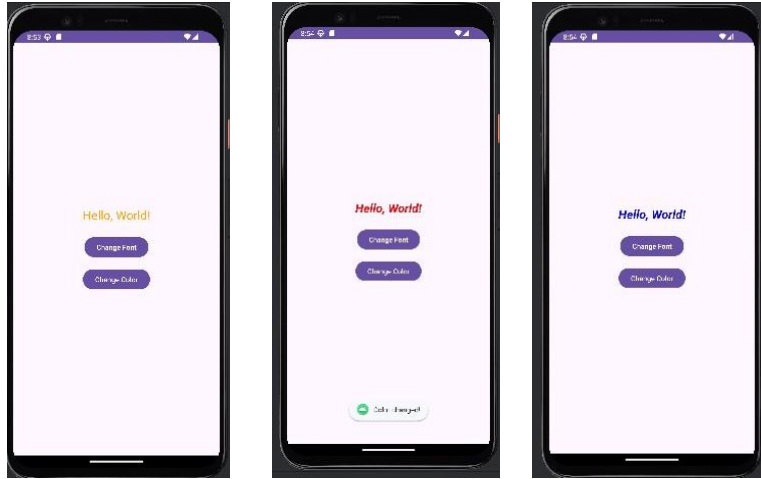
```

buttonChangeColor.setOn
ClickListener {

textView.setTextColor(colo
rs[colorIndex])
colorIndex = (colorIndex +
1) % colors.size
Toast.makeText(this,
"Color changed!",
Toast.LENGTH_SHORT).s
how()
        }
    }
}

```

Output



Result:

The Application was developed using Kotlin in Android Studio.