Ex. No : 01   **Date: 24.02.2025**

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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
<?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
<?xml version="1.0"
encoding="utf-8"?>
<LinearLayout

xmlns:android="http://sche
mas.android.com/apk/res/a
ndroid"

android:layout_width="mat
ch_parent"
```

```xml
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"
```

```xml
        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

```kotlin
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.AppCompatActivity

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 =
```

```kotlin
// Define multiple colors
private val colors =
listOf(
Color.RED,
Color.BLUE,
Color.GREEN,
Color.MAGENTA,
Color.CYAN,

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

override fun
onCreate(savedInstanceSta
te: Bundle?) {

super.onCreate(savedInsta
nceState)

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
```
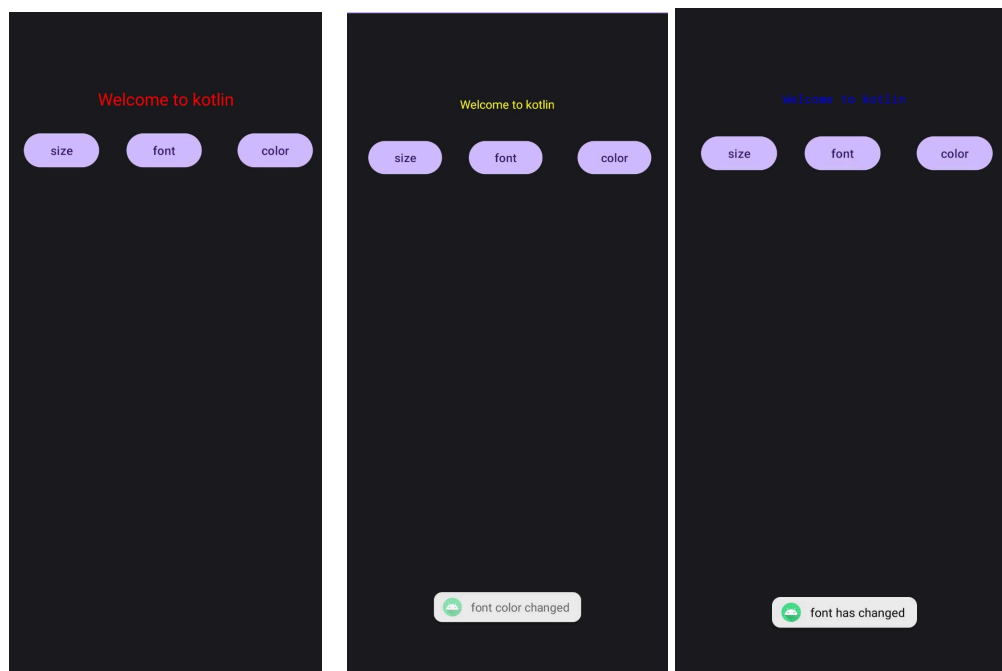
```
Toast.makeText(this,

"Color changed!",

Toast.LENGTH_SHORT).s

how()

}
}
}
```

Output

Result:
The Application was developed using Kotlin in Android Studio.