MOBILE APPLICATION DEVELOPMENT

LAB ASSIGNMENT 02

ABDUL AHAD RAZA
BSCS-RC-294
BSCS-36(A)

LAB 2: THE LAYOUT EDITOR, DESIGN INTERACTIVE UI – EDIT TEXT, TEXT VIEWS, BUTTONS

Objectives:

To develop an android application that uses GUI components, Font and Colors using android studio.

Theoretical Description:

- Open android studio and select new android project.
- Give project name and select next.
- Choose the android version. Choose the lowest android version(Android 2.2) and select next.
- Enter the package name. Package name must be two word separated by comma and click finish.
- Go to package explorer in the left hand side. Select the project.
- Go to "res" folder and select layout. Double click the activitymain.xml file.
- Now you can see the Graphics layout window.
- Click the activitymain.xml file and type the code.
- Go to project explorer and select "src" folder. Now select mainactivity.java file and type the code.
- Go to activitymain.xml and right click. Select run as option and select run configuration.

Lab Task(s):

Designing layout for the Android Application

- Write Click on **app -> res -> layout -> activity_main.xml.**

- Now click on **Text** as shown below.

- Then delete the code which is there and type the code as given below.

```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">

    <TextView
        android:id="@+id/textview"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="30dp"
        android:gravity="center"
        android:text="Hello World"
        android:textSize="20sp"
        android:textStyle="bold" />

    <Button
        android:id="@+id/button1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
```

```
            android:layout_margin="30dp"
            android:gravity="center"
            android:text="Change Font Size"
            android:textSize="25sp" />

        <Button
            android:id="@+id/button2"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_margin="30dp"
            android:gravity="center"
            android:text="Change Color"
            android:textSize="25sp" />
    </LinearLayout>
```

Java Coding for the Android Application

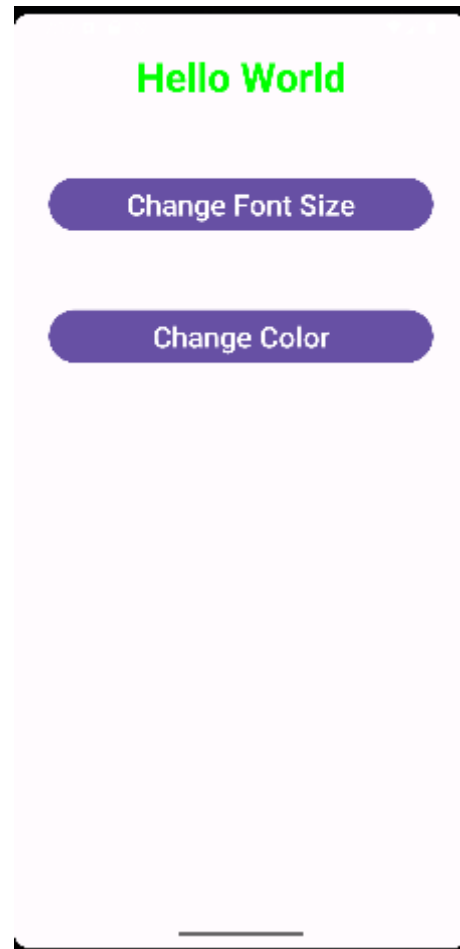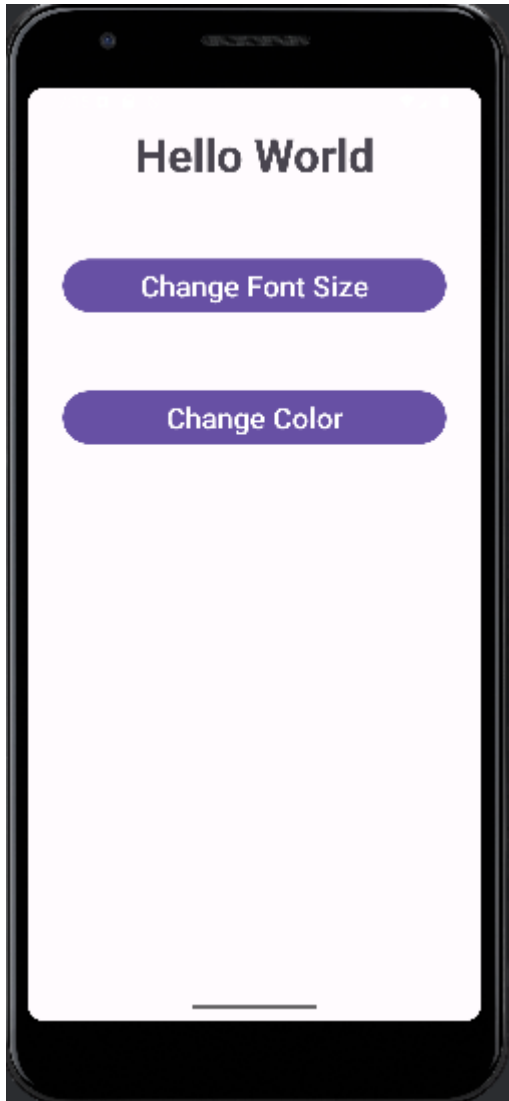- Click on **app -> java -> com.example.lab02 -> MainActivity.**

```java
package com.example.lab02;

import android.graphics.Color;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.TextView;

import androidx.activity.EdgeToEdge;

import androidx.appcompat.app.AppCompatActivity;

import androidx.core.graphics.Insets;

import androidx.core.view.ViewCompat;

import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {

    int ch=1;

    float font=10;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        final TextView t = (TextView) findViewById(R.id.textview);

        Button b1 = (Button) findViewById(R.id.button1);
```

```java
    b1.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            t.setTextSize(font);
            font = font + 5;
            if(font == 50)
                font = 30;
        }
    });
    Button b2 = (Button) findViewById(R.id.button2);
    b2.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            switch (ch)
            {
                case 1:
                    t.setTextColor(Color.RED);
                    break;
                case 2:
                    t.setTextColor(Color.GREEN);
                    break;
                case 3:
                    t.setTextColor(Color.BLUE);
                    break;
            }
            ch++;
            if(ch==7)
                ch =1;
        }
    });
    }
}
```

TASK 2

The HelloToast app consists of two Button elements and one TextView . When the user taps the first Button , it displays a short message (a Toast) on the screen. Tapping the second Button increases a "click" counter displayed in the TextView , which starts at zero.

- Write Click on **app -> res -> layout -> activity_main.xml.**
- Now click on **Text** as shown below.
- Then delete the code which is there and type the code as given below.

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:gravity="center"
    tools:context=".MainActivity1">
    <Button
        android:id="@+id/button_toast"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="8dp"
        android:background="@color/black"
        android:text="@string/button_label_toast"
        android:textColor="@android:color/white"
        android:onClick="showToast" />
    <TextView
        android:id="@+id/show_count"
        android:layout_width="match_parent"
        android:layout_height="0dp"
        android:layout_weight="1"
        android:background="#FFFF00"
        android:gravity="center"
        android:text="@string/count_initial_value"
        android:textAlignment="center"
        android:textColor="@color/black"
        android:textSize="160sp"
```

```
                android:textStyle="bold" />
            <Button
                android:id="@+id/button_count"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_margin="8dp"
                android:background="@color/black"
                android:text="@string/button_label_count"
                android:textColor="@android:color/white"
                android:onClick="mcount" />
        </LinearLayout>
```

• Click on **app -> java -> com.example.lab02 -> MainActivity.**

```
package com.example.lab02;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.TextView;
import android.widget.Toast;
public class MainActivity1 extends AppCompatActivity {
    private int mCount=0;
    private TextView mShowCount;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main1);
        mCount = 0;
        mShowCount = (TextView) findViewById(R.id.show_count);
    }
    public void showToast(View view) {
        Toast.makeText(this, "Hello Toast", Toast.LENGTH_SHORT).show();
    }
    public void mcount(View view) {
        mCount++;
        if (mShowCount != null) {
```

```
        mShowCount.setText(Integer.toString(mCount));
    }
  }
}
```

Output: