Slips 12

Q.1] Construct an Android app that toggles a light bulb ON and OFF when the user clicks on toggle button.

Ans.

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

<RelativeLayout

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:padding="16dp" tools:context=".MainActivity">

<ToggleButton

android:id="@+id/toggleButton" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:textOff="OFF" android:textOn="ON"

android:layout\_centerInParent="true" android:checked="false" />

<ImageView

android:id="@+id/imageViewBulb" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_below="@id/toggleButton" android:layout\_centerHorizontal="true" android:layout\_marginTop="24dp" android:src="@drawable/ic\_launcher\_foreground\_0ff" />

</RelativeLayout>

**MainActivity.java-**

package com.example.myapplication;

import android.os.Bundle; import android.view.View; import android.widget.CompoundButton; import android.widget.ImageView; import android.widget.ToggleButton;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

private ToggleButton toggleButton; private ImageView imageViewBulb;

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main); toggleButton = findViewById(R.id.toggleButton); imageViewBulb = findViewById(R.id.imageViewBulb);

toggleButton.setOnCheckedChangeListener(new CompoundButton.OnCheckedChangeListener() {

@Override

public void onCheckedChanged(CompoundButton buttonView, boolean isChecked) {

if (isChecked) {

// Bulb is ON

imageViewBulb.setImageResource(R.drawable.ic\_launcher\_foregr ound);

} else {

// Bulb is OFF

imageViewBulb.setImageResource(R.drawable.ic\_launcher\_foregr ound\_0ff);

}

}

});

}

}

**Q.2]** Create an Android application which will ask the user to input his / her name. A message should display the two items concatenated in a label. Change the format of the label using radio buttons and check boxes for selection. The user can make the label text bold, underlined or italic as well as change its color. Also include buttons to display the message in the label, clear the text boxes as well as label. Finally exit.

Ans.

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

<RelativeLayout

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:padding="16dp" tools:context=".MainActivity">

<EditText

android:id="@+id/editTextName" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:hint="Enter Name" android:layout\_marginBottom="16dp" />

<Button

android:id="@+id/buttonDisplay" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_below="@id/editTextName" android:layout\_marginTop="16dp" android:text="Display Message" android:onClick="displayMessage" />

<Button android:id="@+id/buttonClear" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_below="@id/buttonDisplay" android:layout\_marginTop="16dp" android:text="Clear" android:onClick="clearFields" />

<TextView

android:id="@+id/textViewMessage" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:layout\_below="@id/buttonClear" android:layout\_marginTop="24dp" android:textColor="@android:color/black" android:textSize="18sp" />

<CheckBox

android:id="@+id/checkBoxBold" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_below="@id/textViewMessage" android:text="Bold" />

<CheckBox android:id="@+id/checkBoxUnderline" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_below="@id/textViewMessage" android:layout\_toEndOf="@id/checkBoxBold" android:text="Underline" />

<CheckBox android:id="@+id/checkBoxItalic" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_below="@id/textViewMessage" android:layout\_toEndOf="@id/checkBoxUnderline" android:text="Italic" />

<RadioGroup android:id="@+id/radioGroupColor" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:layout\_below="@id/checkBoxBold" android:orientation="horizontal">

<RadioButton android:id="@+id/radioButtonBlack" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:checked="true" android:text="Black" />

<RadioButton android:id="@+id/radioButtonRed" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="Red" />

<RadioButton

android:id="@+id/radioButtonBlue" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="Blue" />

</RadioGroup>

</RelativeLayout>

**MainActivity.java- package** com.example.myapplication;

import android.graphics.Color; import android.graphics.Typeface; import android.os.Bundle; import android.view.View; import android.widget.CheckBox; import android.widget.EditText; import android.widget.RadioButton; import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity { private EditText editTextName; private TextView textViewMessage;

private CheckBox checkBoxBold, checkBoxUnderline, checkBoxItalic;

private RadioButton radioButtonBlack, radioButtonRed, radioButtonBlue;

@Override protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main);

editTextName = findViewById(R.id.editTextName); textViewMessage = findViewById(R.id.textViewMessage); checkBoxBold = findViewById(R.id.checkBoxBold); checkBoxUnderline = findViewById(R.id.checkBoxUnderline); checkBoxItalic = findViewById(R.id.checkBoxItalic); radioButtonBlack = findViewById(R.id.radioButtonBlack); radioButtonRed = findViewById(R.id.radioButtonRed); radioButtonBlue = findViewById(R.id.radioButtonBlue);

}

public void displayMessage(View view) {

String name = editTextName.getText().toString();

StringBuilder messageBuilder = new StringBuilder("Hello,

").append(name).append("!");

int textStyle = Typeface.NORMAL; if (checkBoxBold.isChecked()) { textStyle |= Typeface.BOLD;

}

if (checkBoxUnderline.isChecked()) { textStyle |= Typeface.BOLD\_ITALIC;

}

if (checkBoxItalic.isChecked()) { textStyle |= Typeface.ITALIC;

}

textViewMessage.setText(messageBuilder.toString()); textViewMessage.setTypeface(null, textStyle);

int textColor = Color.BLACK; if (radioButtonRed.isChecked()) { textColor = Color.RED;

} else if (radioButtonBlue.isChecked()) { textColor = Color.BLUE;

}

textViewMessage.setTextColor(textColor);

}

public void clearFields(View view) { editTextName.setText(""); textViewMessage.setText(""); checkBoxBold.setChecked(false); checkBoxUnderline.setChecked(false); checkBoxItalic.setChecked(false); radioButtonBlack.setChecked(true);

}

}