

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_off" />

</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_foreground);
        } else {
            // Bulb is OFF

imageViewBulb.setImageResource(R.drawable.ic_launcher_foreground_off);
        }
    }
});
}
}

```

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" />
</RadioButton>
```

```
</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
(radiusButtonRed.isChecked()) {
textColor = Color.RED;
        } else if (radiusButtonBlue.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);
radiusButtonBlack.setChecked(true);

```


}

}