Experiment 09

1.

Activity_main.xml:

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
 xmlns:android="http://schemas.android.com/apk/res/android"
 xmlns:app="http://schemas.android.com/apk/res-auto"
 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=".MainActivity">
<ImageView
 android:id="@+id/i1"
 android:layout_width="250dp"
 android:layout_height="250dp"
 />
<ToggleButton
 android:id="@+id/toggle"
 android:layout_width="wrap_content"
 android:layout_height="wrap_content"
 android:checked="false"
 android:layout_marginTop="30dp"
 android:drawableStart="@drawable/selector"
 />
</LinearLayout>
```

MainActivity.java

```java
package com.example.exp9_1;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.ImageView;
import android.widget.Toast;
import android.widget.ToggleButton;
public class MainActivity extends AppCompatActivity {
 ToggleButton toggle;
 ImageView i1;
 @Override
 protected void onCreate(Bundle savedInstanceState) {
 super.onCreate(savedInstanceState);
 setContentView(R.layout.activity_main);
 toggle=findViewById(R.id.toggle);
```

```
i1=findViewById(R.id.i1);
i1.setImageDrawable(getResources().getDrawable(R.drawable.bluetooth_off));
toggle.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
String status = "Bluetooth : " + toggle.getText();
Toast.makeText(getApplicationContext(), status,
Toast.LENGTH_SHORT).show();
if(toggle.isChecked()){

i1.setImageDrawable(getResources().getDrawable(R.drawable.bluetooth_on));
 }else{
i1.setImageDrawable(getResources().getDrawable(R.drawable.bluetooth_off));
 }
 }
});
 }
}
```
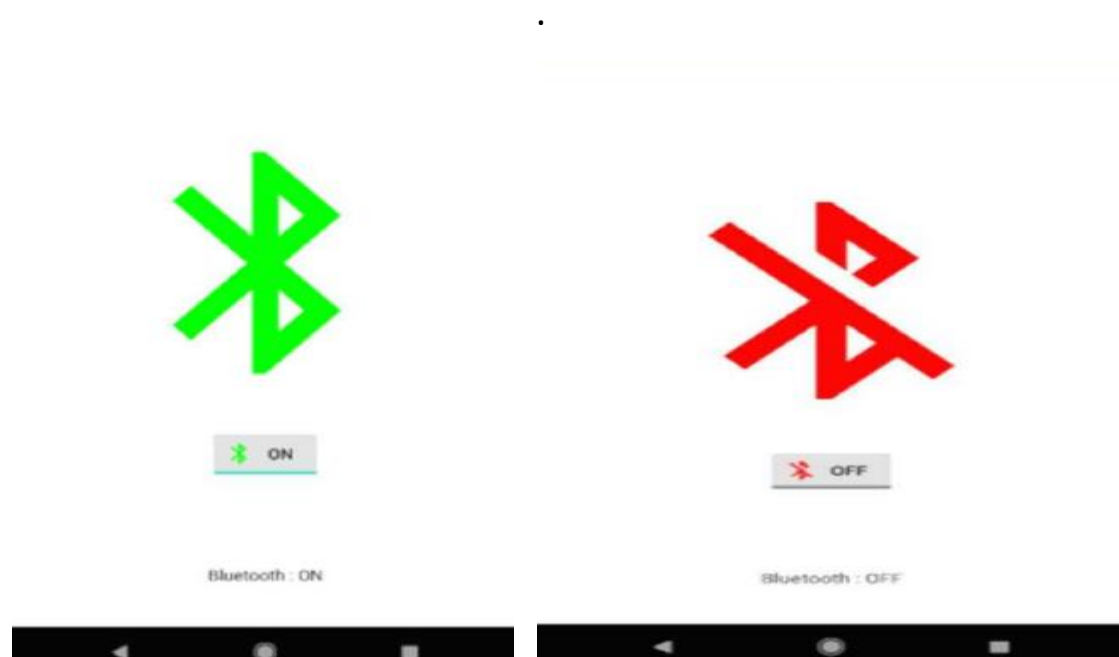
selector.xml:
```
<?xml version="1.0" encoding="utf-8"?>
<selector xmlns:android="http://schemas.android.com/apk/res/android">
 <item android:state_checked="true" android:drawable="@drawable/bluetooth_on"/>
 <item android:state_checked="false"
android:drawable="@drawable/bluetooth_off"/>
</selector>
```

Output:

.

Bluetooth : ON   Bluetooth : OFF

2.

Activity_main.xml:
```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"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".MainActivity">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="30dp"
        android:layout_gravity="center"
        android:text="Calculator"
        android:textSize="40sp"
        android:textStyle="bold"
        android:textColor="#0090FF"/>
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="380dp"
        android:layout_gravity="center"
        android:layout_marginTop="50dp"
        android:orientation="vertical">
        <com.google.android.material.textfield.TextInputLayout
            android:id="@+id/inputLayout1"
            style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            app:boxStrokeColor="#2196F3"
            app:hintTextColor="#2196F3"
            app:placeholderTextColor="#FFFFFF">
            <EditText
                android:id="@+id/ed1"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_margin="4dp"
                android:hint="Enter First Number" />
        </com.google.android.material.textfield.TextInputLayout>
        <com.google.android.material.textfield.TextInputLayout
            android:id="@+id/inputLayout2"
            style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="25dp"
```

```xml
        app:boxStrokeColor="#2196F3"
        app:hintTextColor="#2196F3"
        app:placeholderTextColor="#FFFFFF">
        <EditText
            android:id="@+id/ed2"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_margin="4dp"
            android:hint="Enter Second Number" />
    </com.google.android.material.textfield.TextInputLayout>
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="30dp"
        android:orientation="horizontal">
        <Button
            android:id="@+id/b1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginLeft="75dp"
            android:layout_marginTop="30dp"
            android:backgroundTint="@color/orange"
            android:text="+"
            android:textSize="25sp"
            />
        <Button
            android:id="@+id/b2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginLeft="90dp"
            android:layout_marginTop="30dp"
            android:backgroundTint="@color/orange"
            android:text="-"
            android:textSize="25sp" />
    </LinearLayout>
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal">
        <Button
            android:id="@+id/b3"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginLeft="75dp"
            android:layout_marginTop="30dp"
            android:backgroundTint="@color/orange"
            android:text="*"
            android:textSize="25sp"/>
```

```xml
    <Button
        android:id="@+id/b4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginLeft="90dp"
        android:layout_marginTop="30dp"
        android:backgroundTint="@color/orange"
        android:text="/"
        android:textSize="25sp"/>
    </LinearLayout>
  </LinearLayout>
  <TextView
      android:id="@+id/t1"
      android:layout_width="match_parent"
      android:layout_height="45dp"
      android:gravity="center"
      android:textSize="20sp"
      android:textColor="@color/orangedark" />
</LinearLayout>
```

MainActivity.java:

```java
package com.example.myapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    private EditText ed1,ed2;
    private TextView t1;
    private Button add,sub,mul,div;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        t1=findViewById(R.id.t1);
        ed1=findViewById(R.id.ed1);
        ed2=findViewById(R.id.ed2);
        add=findViewById(R.id.b1);
        sub=findViewById(R.id.b2);
        mul=findViewById(R.id.b3);
        div=findViewById(R.id.b4);
        add.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
```

```java
            if(ed1.getText().toString().equals("")||ed2.getText().toString().equals(""))
            {
                Toast.makeText(MainActivity.this,"Please Enter Number",
                        Toast.LENGTH_SHORT).show();
            }
            else
            {
                ed1.getText().toString();
                ed2.getText().toString();
                double a1=Double.valueOf(ed1.getText().toString());
                double a2=Double.valueOf(ed2.getText().toString());
                double a3;
                a3=a1+a2;
                t1.setText("Addition: "+String.valueOf(a3));
            }
        }
    });
    sub.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {

            if(ed1.getText().toString().equals("")||ed2.getText().toString().equals(""))
            {
                Toast.makeText(MainActivity.this,"Please Enter Number",
                        Toast.LENGTH_SHORT).show();
            }
            else
            {
                ed1.getText().toString();
                ed2.getText().toString();
                double a1=Double.valueOf(ed1.getText().toString());
                double a2=Double.valueOf(ed2.getText().toString());
                double a3;
                a3=a1-a2;
                t1.setText("Subtraction: "+String.valueOf(a3));
            }
        }
    });
    mul.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {

            if(ed1.getText().toString().equals("")||ed2.getText().toString().equals(""))
            {
                Toast.makeText(MainActivity.this,"Please Enter Number",
                        Toast.LENGTH_SHORT).show();
            }
```

```java
        else
        {
            ed1.getText().toString();
            ed2.getText().toString();
            double a1=Double.valueOf(ed1.getText().toString());
            double a2=Double.valueOf(ed2.getText().toString());
            double a3;
            a3=a1*a2;
            t1.setText("Multiplication: "+String.valueOf(a3));
        }
    }
});
div.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {

        if(ed1.getText().toString().equals("")||ed2.getText().toString().equals(""))
        {
            Toast.makeText(MainActivity.this,"Please Enter Number",
                Toast.LENGTH_SHORT).show();
        }
        else
        {
            ed1.getText().toString();
            ed2.getText().toString();
            double a1=Double.valueOf(ed1.getText().toString());
            double a2=Double.valueOf(ed2.getText().toString());
            double a3;
            a3=a1/a2;
            t1.setText("Division: "+String.valueOf(a3));
        }
    }
});
    }
}
```

Output:

Calculator

Enter First Number

54

Enter Second Number

6

+   -

*   /

Addition: 60.0