

Practical No: 9

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Roll No: 66

1. Write a program to create a toggle button to display ON / OFF Bluetooth on the display screen.

AndroidManifest.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">
    <uses-permission android:name="android.permission.BLUETOOTH"></uses-permission>
    <uses-permission android:name="android.permission.BLUETOOTH_ADMIN" />
    <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:supportRtl="true"
        android:theme="@style/Theme.Practical_1"
        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(code for layout):-

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    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"
    tools:context=".MainActivity">
```

```

<TextView
    android:id="@+id/msg"
    android:layout_width="196dp"
    android:layout_height="18dp"
    android:text="Turn Bluetooth ON / OFF"
    android:textSize="18sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<ToggleButton
    android:id="@+id/btnBluetooth"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="ToggleButton"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/msg"
    app:layout_constraintVertical_bias="0.087" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

MainActivity.java(code for functionality):-

```

package com.example.practical_9;
import androidx.appcompat.app.AppCompatActivity;
import android.bluetooth.BluetoothAdapter;
import android.content.Intent;
import android.os.Bundle;
import android.widget.CompoundButton;
import android.widget.TextView;
import android.widget.ToggleButton;
public class MainActivity extends AppCompatActivity {
    ToggleButton btn;
    TextView msg;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        btn = findViewById(R.id.btnBluetooth);
        msg = findViewById(R.id.msg);
        final BluetoothAdapter blue = BluetoothAdapter.getDefaultAdapter();
        btn.setOnCheckedChangeListener(new CompoundButton.OnCheckedChangeListener() {
            @Override
            public void onCheckedChanged(CompoundButton buttonView, boolean isChecked) {

```

```
if (isChecked){
    if(blue.getState() == BluetoothAdapter.STATE_ON){
        blue.disable();
        msg.setText("Bluetooth is OFF");
    }
}
else{
    blue.enable();
    msg.setText("Bluetooth is ON");
}
}
});
}
```

} Output:

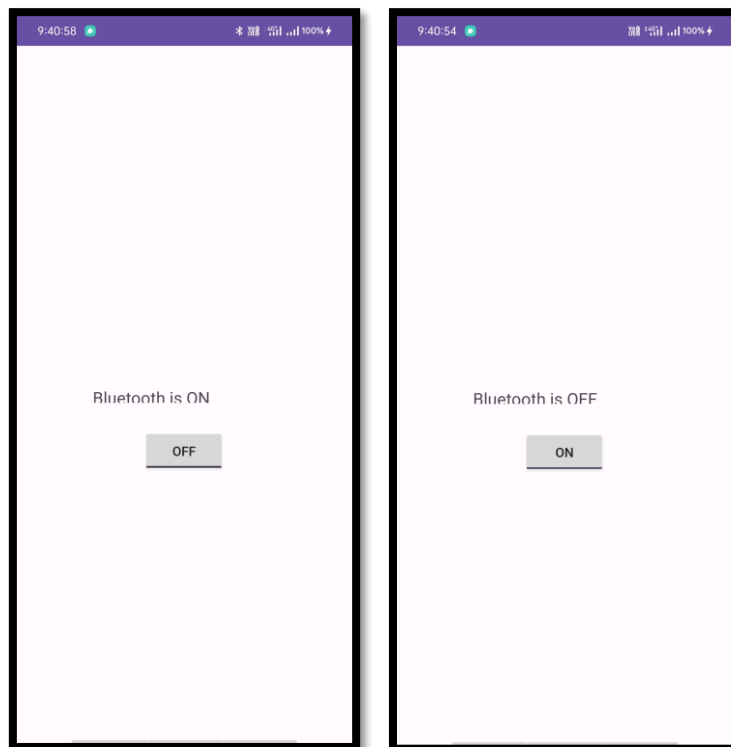


Fig: 8.1 bluetoon

2. Write a program to create a simple calculator.

Activity_main.xml(code for layout):-

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    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"
    tools:context=".MainActivity">

    <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="5dp"
            android:layout_gravity="center"
            android:text="Prince Maurya_66"
            android:textSize="20sp"
            android:textStyle="bold"
            android:textColor="@color/black"/>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginTop="5dp"
            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"
    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: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: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:text="*"
        android:textSize="25sp"/>
    <Button
        android:id="@+id/b4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginLeft="90dp"
        android:layout_marginTop="30dp"
        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"
/>
</LinearLayout>
</androidx.constraintlayout.widget.ConstraintLayout>

```

MainActivity.java(code for functionality):-

```

package com.example.practical8;

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) {
            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();
        }
        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:

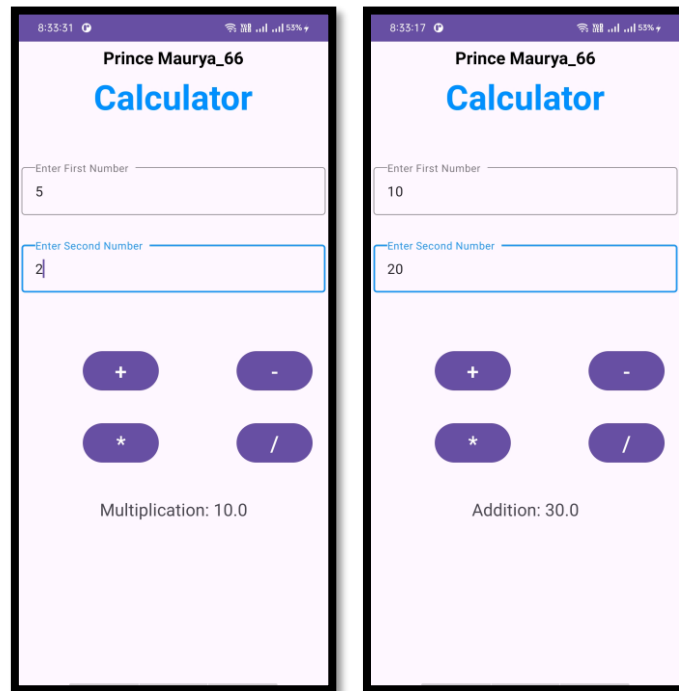


Fig: 8.2 Calculator