Activity_Main.XML

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
   android:orientation="vertical"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   <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="25sp"
      android:textStyle="bold" />
   <Button
      android:id="@+id/button1"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:layout_margin="20dp"
      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="20dp"
      android:gravity="center"
      android:text="Change color"
      android:textSize="25sp" />
</LinearLayout>
```

MainActivity.java

```
package com.example.Application1;
import android.graphics.Color;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
public class MainActivity extends AppCompatActivity
{
   int ch=1;
   float font=30;
   @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);
      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;
                case 4:
                    t.setTextColor(Color.CYAN);
                    break;
                case 5:
                    t.setTextColor(Color.YELLOW);
                    break;
                case 6:
                    t.setTextColor(Color.MAGENTA);
                    break;
            }
            ch++;
            if (ch == 7)
                ch = 1;
        }
    });
  }
}
```

Output:

Activity_Main.XML

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
   android:layout_width="match_parent"
   android:layout_height="match_parent">
   <ImageView
      android:layout_width="match_parent"
      android:layout_height="match_parent"
      android:id="@+id/imageView" />
</RelativeLayout>
```

MainActivity.java

```
package com.example.Graphics;
import android.app.Activity;
import android.graphics.Bitmap;
import android.graphics.Canvas;
import android.graphics.Color;
import android.graphics.Paint;
import android.graphics.drawable.BitmapDrawable;
import android.os.Bundle;
import android.widget.ImageView;
public class MainActivity extends Activity
{
   @Override
   public void onCreate(Bundle savedInstanceState)
   {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main)
      //Creating a Bitmap
      Bitmap bg = Bitmap.createBitmap(720, 1280, Bitmap.Config.ARGB_8888);

      //Setting the Bitmap as background for the ImageView
      ImageView i = (ImageView) findViewById(R.id.imageView);
```

```
        i.setBackgroundDrawable(new BitmapDrawable(bg));
        //Creating the Canvas Object
        Canvas canvas = new Canvas(bg);
        //Creating the Paint Object and set its color & TextSize
        Paint paint = new Paint();
        paint.setColor(Color.BLUE);
        paint.setTextSize(50);
        //To draw a Rectangle
        canvas.drawText("Rectangle", 420, 150, paint);
        canvas.drawRect(400, 200, 650, 700, paint);
        //To draw a Circle
        canvas.drawText("Circle", 120, 150, paint);
        canvas.drawCircle(200, 350, 150, paint);
        //To draw a Square
        canvas.drawText("Square", 120, 800, paint);
        canvas.drawRect(50, 850, 350, 1150, paint);
        //To draw a Line
        canvas.drawText("Line", 480, 800, paint);
        canvas.drawLine(520, 850, 520, 1150, paint);
    }
}
```

Output:

Activity_main.XML

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

<LinearLayout

   xmlns:android="http://schemas.android.com/apk/res/android"

   android:orientation="vertical"

   android:layout_width="match_parent"

   android:layout_height="match_parent"

   android:layout_margin="20dp">



   <LinearLayout

      android:id="@+id/linearLayout1"

      android:layout_width="match_parent"

      android:layout_height="wrap_content"

      android:layout_margin="20dp">
<EditText

         android:id="@+id/editText1"

         android:layout_width="match_parent"

         android:layout_height="wrap_content"

         android:layout_weight="1"

         android:inputType="numberDecimal"

         android:textSize="20sp" />



      <EditText
```

```
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:inputType="numberDecimal"
        android:textSize="20sp" />
</LinearLayout>

    <LinearLayout
        android:id="@+id/linearLayout2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="20dp">

        <Button
            android:id="@+id/Add"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:text="+"
            android:textSize="30sp"/>

        <Button
```

```
        android:id="@+id/Sub"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="-"
        android:textSize="30sp"/>

    <Button
        android:id="@+id/Mul"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="*"
        android:textSize="30sp"/>

    <Button
        android:id="@+id/Div"
android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="/"
        android:textSize="30sp"/>
```

```
    </LinearLayout>


    <TextView

        android:id="@+id/textView"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:layout_marginTop="50dp"

        android:text="Answer is"

        android:textSize="30sp"

        android:gravity="center"/>
</LinearLayout>
```

MainActivity.java

```
package com.example.Calculator;

import android.os.Bundle;
import android.support.v7.app.AppCompatActivity;
import android.text.TextUtils;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity implements OnClickListener
{
    //Defining the Views
    EditText Num1;
    EditText Num2;
    Button Add;
    Button Sub;
    Button Mul;
```

```
    Button Div;
    TextView Result;

    @Override
    public void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        //Referring the Views
        Num1 = (EditText) findViewById(R.id.editText1);
        Num2 = (EditText) findViewById(R.id.editText2);
        Add = (Button) findViewById(R.id.Add);
        Sub = (Button) findViewById(R.id.Sub);
        Mul = (Button) findViewById(R.id.Mul);
        Div = (Button) findViewById(R.id.Div);
        Result = (TextView) findViewById(R.id.textView);

        // set a listener
        Add.setOnClickListener(this);
        Sub.setOnClickListener(this);
        Mul.setOnClickListener(this);
        Div.setOnClickListener(this);
    }

    @Override
    public void onClick (View v)
    {

        float num1 = 0;
        float num2 = 0;
        float result = 0;
        String oper = "";

        // check if the fields are empty
        if (TextUtils.isEmpty(Num1.getText().toString()) ||
TextUtils.isEmpty(Num2.getText().toString()))
            return;

        // read EditText and fill variables with numbers
        num1 = Float.parseFloat(Num1.getText().toString());
        num2 = Float.parseFloat(Num2.getText().toString());

        // defines the button that has been clicked and performs the corresponding operation
```

```
            case R.id.Mul:
                oper = "*";
                result = num1 * num2;
                break;
            case R.id.Div:
                oper = "/";
                result = num1 / num2;
                break;
            default:
                break;
        }
        // form the output line
        Result.setText(num1 + " " + oper + " " + num2 + " = " + result);
    }
}
```

Output:

Activity_Main.XML

```
<?xml version="1.0" encoding="utf-8"?>
<AbsoluteLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_x="50dp"
        android:layout_y="20dp"
        android:text="Student Details"
        android:textSize="30sp" />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_x="20dp"
        android:layout_y="110dp"
        android:text="Enter Rollno:"
        android:textSize="20sp" />
    <EditText
        android:id="@+id/Rollno"
        android:layout_width="150dp"
        android:layout_height="wrap_content"
        android:layout_x="175dp"
        android:layout_y="100dp"
        android:inputType="number"
        android:textSize="20sp" />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_x="20dp"
        android:layout_y="160dp"
        android:text="Enter Name:"
```

```
<Button
   android:id="@+id/Delete"
   android:layout_width="150dp"
   android:layout_height="wrap_content"
   android:layout_x="200dp"
   android:layout_y="300dp"
   android:text="Delete"
   android:textSize="30dp" />
<Button
   android:id="@+id/Update"
   android:layout_width="150dp"
   android:layout_height="wrap_content"
   android:layout_x="25dp"
   android:layout_y="400dp"
   android:text="Update"
   android:textSize="30dp" />
<Button
   android:id="@+id/View"
   android:layout_width="150dp"
   android:layout_height="wrap_content"
   android:layout_x="200dp"
   android:layout_y="400dp"
   android:text="View"
   android:textSize="30dp" />
<Button
   android:id="@+id/ViewAll"
   android:layout_width="200dp"
   android:layout_height="wrap_content"
   android:layout_x="100dp"
   android:layout_y="500dp"
   android:text="View All"
```

```
    android:textSize="30dp" />
</AbsoluteLayout>
```

ActivityMain.java

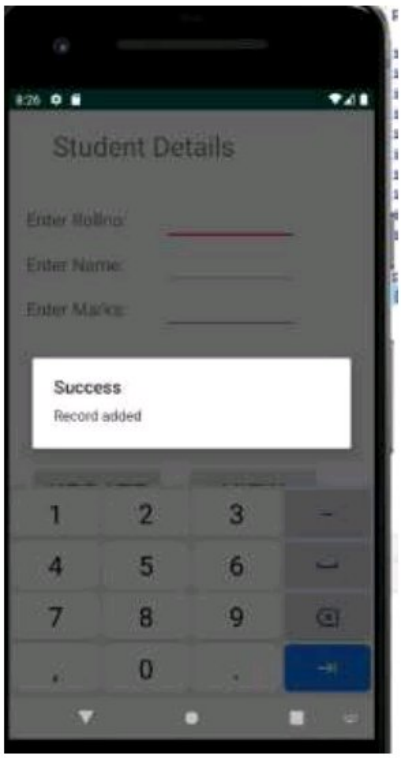
```
package com.example.exno5;
import android.app.Activity;
import android.app.AlertDialog.Builder;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.os.Bundle;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
public class MainActivity extends Activity implements OnClickListener
{
   EditText Rollno,Name,Marks;
   Button Insert,Delete,Update,View,ViewAll;
   SQLiteDatabase db;
   /** Called when the activity is first created. */
   @Override
   public void onCreate(Bundle savedInstanceState)
   {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      Rollno=(EditText)findViewById(R.id.Rollno);
      Name=(EditText)findViewById(R.id.Name);
      Marks=(EditText)findViewById(R.id.Marks);
      Insert=(Button)findViewById(R.id.Insert);
      Delete=(Button)findViewById(R.id.Delete);
      Update=(Button)findViewById(R.id.Update);
```

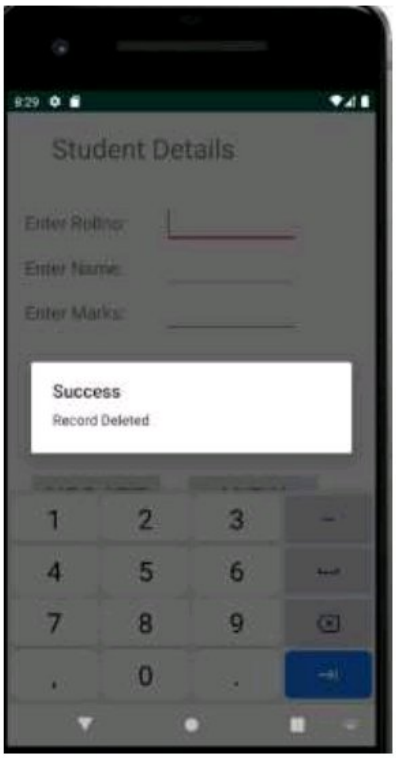
```
    View=(Button)findViewById(R.id.View);
    ViewAll=(Button)findViewById(R.id.ViewAll);
    Insert.setOnClickListener(this);
    Delete.setOnClickListener(this);
    Update.setOnClickListener(this);
    View.setOnClickListener(this);
    ViewAll.setOnClickListener(this);

    // Creating database and table
    db=openOrCreateDatabase("StudentDB", Context.MODE_PRIVATE, null);
    db.execSQL("CREATE TABLE IF NOT EXISTS student(rollno VARCHAR,name VARCHAR,marks
VARCHAR);");
  }
  public void onClick(View view)
  {
    // Inserting a record to the Student table
    if(view==Insert)
    {
      // Checking for empty fields
      if(Rollno.getText().toString().trim().length()==0||
          Name.getText().toString().trim().length()==0||
          Marks.getText().toString().trim().length()==0)
      {
        showMessage("Error", "Please enter all values");
        return;
      }
      db.execSQL("INSERT INTO student VALUES('"+Rollno.getText()+"','"+Name.getText()+
          "','"+Marks.getText()+"');");
      showMessage("Success", "Record added");
      clearText();
    }
    // Deleting a record from the Student table
    if(view==Delete)
```

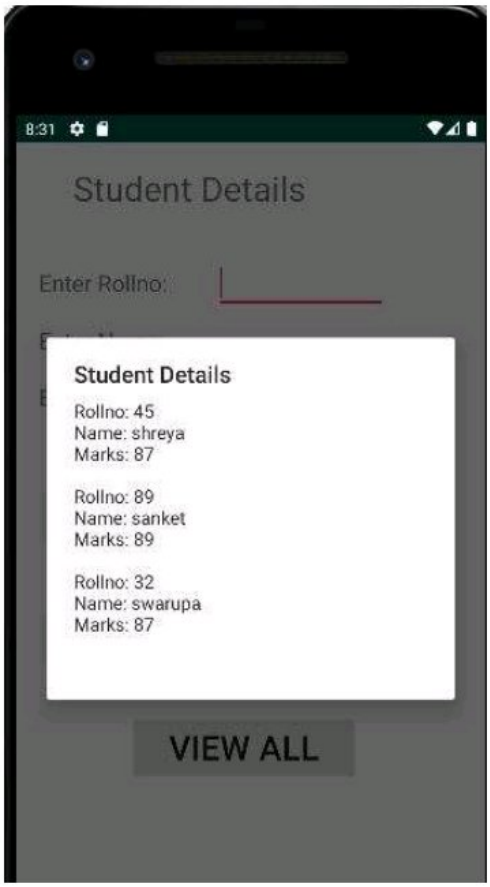
```
            showMessage("Success", "Record Modified");
        }
        else {
            showMessage("Error", "Invalid Rollno");
        }
        clearText();
    }
    // Display a record from the Student table
    if(view==View)
    {
        // Checking for empty roll number
        if(Rollno.getText().toString().trim().length()==0)
        {
            showMessage("Error", "Please enter Rollno");
            return;
        }
        Cursor c=db.rawQuery("SELECT * FROM student WHERE rollno='"+Rollno.getText()+"'", null);
        if(c.moveToFirst())
        {
            Name.setText(c.getString(1));
            Marks.setText(c.getString(2));
        }
        else
        {
            showMessage("Error", "Invalid Rollno");
            clearText();
        }
    }
    // Displaying all the records
    if(view==ViewAll)
    {
        Cursor c=db.rawQuery("SELECT * FROM student", null);
```

```
        if(c.getCount()==0)
        {
           showMessage("Error", "No records found");
           return;
        }
        StringBuffer buffer=new StringBuffer();
        while(c.moveToNext())
        {
           buffer.append("Rollno: "+c.getString(0)+"\n");
           buffer.append("Name: "+c.getString(1)+"\n");
           buffer.append("Marks: "+c.getString(2)+"\n\n");
        }
        showMessage("Student Details", buffer.toString());
     }
  }
  public void showMessage(String title,String message)
  {
     Builder builder=new Builder(this);
     builder.setCancelable(true);
     builder.setTitle(title);
     builder.setMessage(message);
     builder.show();
  }
  public void clearText()
  {
     Rollno.setText("");
     Name.setText("");
     Marks.setText("");
     Rollno.requestFocus();
  }
}
```

Output:







Activity_Main.XML

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
        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:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Press The Back Button of Your Phone."
        android:textStyle="bold"
        android:textSize="30dp"
        android:gravity="center_horizontal"
        android:layout_marginTop="180dp"
        />
</RelativeLayout>
```

ActivityMain.java

```
package org.alertdialog;
import android.content.DialogInterface;
import android.support.v7.app.AlertDialog;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity {
        @Override
        protected void onCreate(Bundle savedInstanceState)
        {
                super.onCreate(savedInstanceState);
                setContentView(R.layout.activity_main);
        }
```

```
// Declare the onBackPressed method
// when the back button is pressed
// this method will call
@Override
public void onBackPressed()
{
        // Create the object of
        // AlertDialog Builder class
        AlertDialog.Builder builder
                = new AlertDialog.Builder(MainActivity.this);
        // Set the message show for the Alert time
        builder.setMessage("Do you want to exit ?");
        // Set Alert Title
        builder.setTitle("Alert !");
        // Set Cancelable false
        // for when the user clicks on the outside
        // the Dialog Box then it will remain show
        builder.setCancelable(false);

        // Set the positive button with yes name
        // OnClickListener method is use of
        // DialogInterface interface.
        builder
                .setPositiveButton(
                        "Yes",
                        new DialogInterface
                                .OnClickListener() {
                                        @Override
                                        public void onClick(DialogInterface dialog,
                                                                                int which)
                                        {
```

```
                                        // When the user click yes button
                                        // then app will close
                                        finish();
                                    }
                                });
                // Set the Negative button with No name
                // OnClickListener method is use
                // of DialogInterface interface.
                builder
                        .setNegativeButton(
                                "No",
                                new DialogInterface
                                        .OnClickListener() {
                                    @Override
                                    public void onClick(DialogInterface dialog,
                                                        int which)
                                    {
                                        // If user click no
                                        // then dialog box is canceled.
                                        dialog.cancel();
                                    }
                                });
                // Create the Alert dialog
                AlertDialog alertDialog = builder.create();
                // Show the Alert Dialog box
                alertDialog.show();
        }
}
```

Output:

activity.xml

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

<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    android:paddingLeft="10dp"

    android:paddingRight="10dp">

    <Button

        android:id="@+id/btnOn"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="Turn On" android:layout_marginLeft="100dp"
android:layout_marginTop="200dp" />

    <Button

        android:id="@+id/btnOFF"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_alignBottom="@+id/btnOn"

        android:layout_toRightOf="@+id/btnOn"

        android:text="Turn OFF" />

</RelativeLayout>
```

Activity.java

```
package.com.example.osl.bluetoothuselessapp;

import android.bluetooth.BluetoothAdapter;

import android.content.Intent;

import android.support.v7.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        Button btntOn = (Button)findViewById(R.id.btnOn);

        Button btntOff = (Button)findViewById(R.id.btnOFF);

        final BluetoothAdapter bAdapter = BluetoothAdapter.getDefaultAdapter();



        btntOn.setOnClickListener(new View.OnClickListener() {

            @Override
```

```
        public void onClick(View v) {

            if(bAdapter == null)

            {

                Toast.makeText(getApplicationContext(),"Bluetooth Not
Supported",Toast.LENGTH_SHORT).show();

            }

            else{

                if(!bAdapter.isEnabled()){

                    startActivityForResult(new
Intent(BluetoothAdapter.ACTION_REQUEST_ENABLE),1);

                    Toast.makeText(getApplicationContext(),"Bluetooth Turned
ON",Toast.LENGTH_SHORT).show();

                }

            }

        }

    });

    btntOff.setOnClickListener(new View.OnClickListener() {

        @Override

        public void onClick(View v) {

            bAdapter.disable();

            Toast.makeText(getApplicationContext(),"Bluetooth Turned OFF",
Toast.LENGTH_SHORT).show();
```

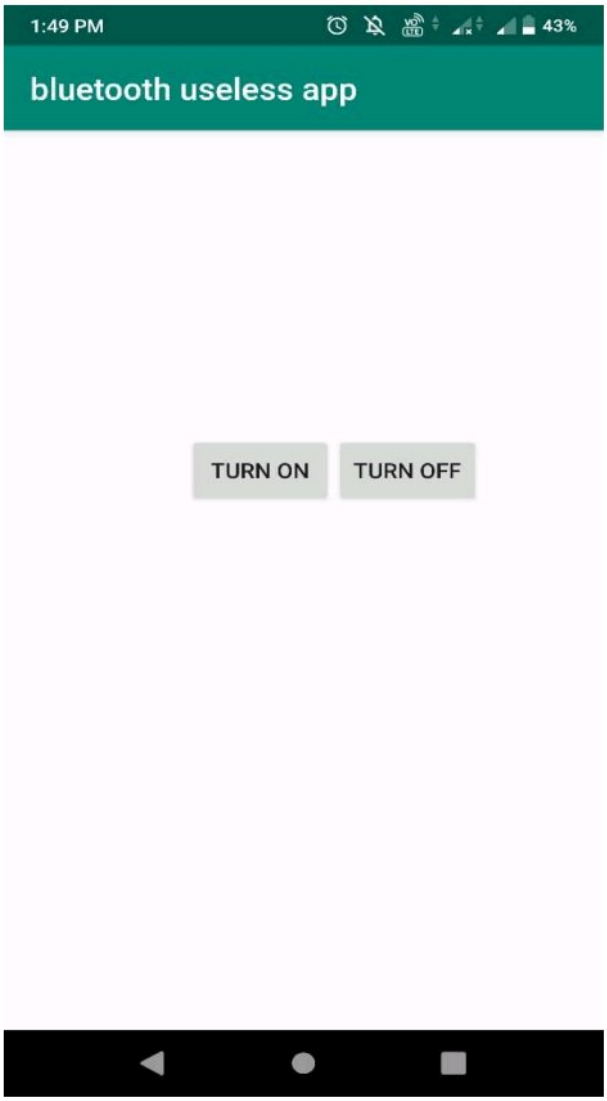
```
            }
        });
    }
}
```

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

```
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.osl.bluetoothuselessapp">
    <uses-permission android:name="android.permission.BLUETOOTH"/>
    <uses-permission android:name="android.permission.BLUETOOTH_ADMIN"/>
    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
```

```
        </intent-filter>

    </activity>

  </application>

</manifest>
```

Output:



```
import numpy as np
c1=[1,1,1,1]
c2=[1,-1,1,-1]
c3=[1,1,-1,-1]
c4=[1,-1,-1,1]
rc=[]
```

```
print("Enter the data bits:")
d1=int(input("Enter D1:"))
d2=int(input("Enter D2: "))
d3=int(input("Enter D3: "))
d4=int(input("Enter D4 :"))
r1=np.multiply(c1,d1)
r2=np.multiply(c2,d2)
r3=np.multiply(c3,d3)
r4=np.multiply(c4,d4)
resultant_channel=r1+r2+r3+r4;
print("Resultant Channel",resultant_channel)
Channel=int(input("Enter the station to listen for c1=1,c2=2,c3=3,c4=4:"))
if Channel==1: rc=c1
elif Channel==2: rc=c2
elif Channel==3: rc=c3
elif Channel: rc=c4
inner_product=np.multiply(resultant_channel,rc)

print("inner_Product", inner_product)
res1=sum(inner_product)
data=res1/len(inner_product)
print("Data hit that was sent", data)
```

```
Enter the data bits:
Enter D1:23
Enter D2: 5
Enter D3: 456
Enter D4 :56
Resultant Channel [ 540  418 -484 -382]
Enter the station to listen for c1=1,c2=2,c3=3,c4=4:1
inner_Product [ 540  418 -484 -382]
Data hit that was sent 23.0
```