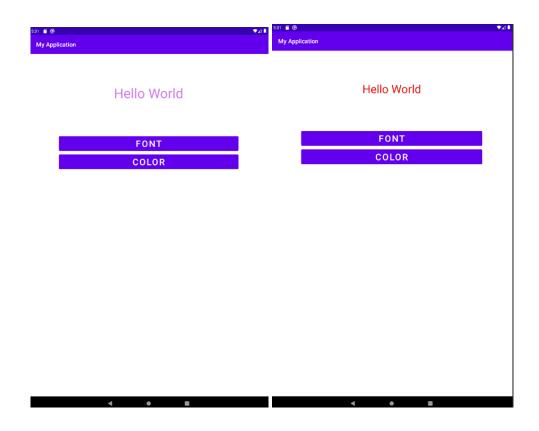
```
package com.exampl
import androidx.appcompat.app.AppCompatActivity;
import android.graphics.Color;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
import java.util.*;
import java.sql.Array;
public class MainActivity extends AppCompatActivity {
   float font = 30;
    int r = 0, b = 0, g = 0;
   @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    public void fontChange(View view) {
        TextView helloTxt = findViewById(R.id.helloTxt);
        helloTxt.setTextSize(font);
        font++;
    public void colorChange(View view) {
        TextView helloTxt = findViewById(R.id.helloTxt);
        int red[] = new int[] { 221, 66, 117, 230, 2, 210 };
        int green[] = new int[] { 66, 245, 232, 11, 26, 120 };
        int blue[] = new int[] { 245, 212, 9, 11, 41, 240 };
        helloTxt.setTextColor(Color.rgb(red[r], green[g], blue[b]));
        r++;
        b++;
        g++;
        System.out.println("R : " + r);
        if (r > 5) {
            r = 0;
            g = 0;
            b = 0;
        }
```

```
<?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"</pre>
```

```
xmlns:tools="http://schemas.android.com/tools"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   tools:context=".MainActivity"
   android:padding="100dp"
  <TextView
      android:layout width="wrap content"
      android:layout_height="wrap_content"
      android:text="Hello World"
      android:textSize="30dp"
      android:layout centerHorizontal="true"
      android:id="@+id/helloTxt"
      android:layout marginBottom="100dp"
  <Button
      android:id="@+id/fontBtn"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:layout below="@id/helloTxt"
      android:layout_marginTop="8dp"
      android:text="Font"
      android:textSize="30dp"
      android:onClick="fontChange"
  <Button
      android:layout_width="match_parent"
      android:layout height="wrap content"
     android:text="Color"
     android:id="@+id/colorBtn"
     android:textSize="30dp"
     android:layout_below="@id/fontBtn"
      android:onClick="colorChange"
/RelativeLayout>
```

Name: Sahil Halgekar

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```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"</pre>
   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"
   tools:context=".MainActivity2">
   <TextView
       android:id="@+id/newName"
       android:layout_width="match_parent"
       android:layout height="wrap_content"
       android:textSize="20dp"
       android:layout_margin="20dp"
       android:gravity="center"
       android:text="Name" />
   <TextView
       android:id="@+id/newUsn"
       android:layout_width="match_parent"
       android:layout_height="wrap_content"
       android:textSize="20dp"
       android:layout_margin="20dp"
       android:gravity="center"
       android:text="USN" />
   <TextView
       android:id="@+id/newDept"
       android:layout width="match parent"
       android:layout_height="wrap_content"
       android:textSize="20dp"
       android:layout margin="20dp"
       android:gravity="center"
       android:text="Dept " />
:/LinearLayout>
```

Activity_main.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"
    tools:context=".MainActivity" >

    <TextView
        android:id="@+id/textView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"</pre>
```

```
android:text="Student Detail Form"
   android:gravity="center"
   android:layout margin="30dp"
   android:textSize="30dp"
   android:textColor="#4e3a23"
   android:typeface="sans" />
<TableLayout
   android:layout width="match parent"
   android:layout_height="match_parent">
   <TableRow
       android:layout width="match parent"
        android:layout_height="match_parent">
        <TextView
            android:id="@+id/nameHolder"
            android:layout width="wrap content"
            android:layout height="wrap content"
            android:layout_marginVertical="25dp"
            android:layout_marginHorizontal="10dp"
            android:text="Name : "
            android:textSize="25dp" />
        <EditText
            android:id="@+id/name"
            android:layout width="wrap content"
            android:layout height="wrap content"
            android:layout_marginVertical="20dp"
            android:layout_marginRight="20dp"
            android:ems="10"
            android:hint="Enter your name"
            android:textSize="25dp"
            android:inputType="text" />
   </TableRow>
   <TableRow
        android:layout_width="match_parent"
        android:layout_height="match_parent">
        <TextView
            android:id="@+id/usnHolder"
            android:layout_width="wrap_content"
            android:layout height="wrap content"
            android:layout_marginVertical="25dp"
            android:layout_marginHorizontal="10dp"
            android:text="USN : "
            android:textSize="25dp" />
        <EditText
            android:id="@+id/usn"
```

```
android:layout_width="wrap_content"
               android:layout_height="wrap_content"
               android:layout_marginVertical="20dp"
               android:layout_marginRight="20dp"
               android:ems="10"
               android:hint="Enter your USN"
               android:textSize="25dp"
               android:inputType="text" />
       </TableRow>
       <TableRow
           android:layout width="match parent"
           android:layout_height="match_parent">
           <TextView
               android:id="@+id/deptholder"
               android:layout width="wrap content"
               android:layout height="wrap content"
               android:layout_marginVertical="25dp"
               android:layout_marginHorizontal="10dp"
               android:text="Dept : "
               android:textSize="25dp" />
           <Spinner
               android:id="@+id/dept"
               android:layout_width="match_parent"
               android:layout_height="wrap_content"
               android:spinnerMode="dropdown"
               android:layout_marginVertical="25dp"
               android:layout marginHorizontal="10dp"
               android:textSize="25dp" />
       </TableRow>
       <Button
           android:layout_width="wrap_content"
           android:layout_height="wrap_content"
           android:text="SUBMIT"
           android:textStyle="bold"
           android:layout_margin="20dp"
           android:id="@+id/submit"
           android:onClick="onSubmit"
   </TableLayout>
</LinearLayout>
```

```
package com.example.tw2;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Spinner;
public class MainActivity extends AppCompatActivity {
    String departments[] = new String[] { "CSE", "ISE", "EC", "EE", "ME",
'CV", "MECH" };
    String name, usn, dept;
   @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity main);
        EditText nameObj = (EditText) findViewById(R.id.name);
        EditText usnObj = (EditText) findViewById(R.id.usn);
        Spinner deptObj = (Spinner) findViewById(R.id.dept);
        Button btn = (Button) findViewById(R.id.submit);
        ArrayAdapter aa = new ArrayAdapter(this,
com.google.android.material.R.layout.support_simple_spinner_dropdown_item,
departments);
aa.setDropDownViewResource(com.google.android.material.R.layout.support simple
_spinner_dropdown_item);
        deptObj.setAdapter(aa);
    public void onSubmit(View view) {
        EditText nameObj = (EditText) findViewById(R.id.name);
        EditText usnObj = (EditText) findViewById(R.id.usn);
        Spinner deptObj = (Spinner) findViewById(R.id.dept);
        name = nameObj.getText().toString();
        usn = usnObj.getText().toString();
        dept = deptObj.getSelectedItem().toString();
        Intent i = new Intent(MainActivity.this, MainActivity2.class);
        i.putExtra("name_key", name);
        i.putExtra("usn_key", usn);
        i.putExtra("dept_key", dept);
        startActivity(i);
```

MainActivity2.xml

```
package com.example.tw2;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.widget.TextView;
public class MainActivity2 extends AppCompatActivity {
    String name, usn, dept;
   @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        TextView t1 = (TextView) findViewById(R.id.newName);
        TextView t2 = (TextView) findViewById(R.id.newUsn);
        TextView t3 = (TextView) findViewById(R.id.newDept);
        Intent i = getIntent();
        usn = i.getStringExtra("usn_key");
        name = i.getStringExtra("name_key");
        dept = i.getStringExtra("dept_key");
        t1.setText(name);
        t2.setText(usn);
        t3.setText(dept);}}
```

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```
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.TextView;
import org.w3c.dom.Text;
public class MainActivity extends AppCompatActivity {
    float a, b, c;
   @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity main);
    public void handleAdd(View view) {
       EditText num1 = findViewById(R.id.num1);
       EditText num2 = findViewById(R.id.num2);
       TextView ans = findViewById(R.id.ans);
       a = Float.parseFloat(num1.getText().toString());
       b = Float.parseFloat(num2.getText().toString());
       c = a + b;
       ans.setText(" " + a + " + " + " " + b + " = " + c);
    public void handleSub(View view) {
       EditText num1 = findViewById(R.id.num1);
        EditText num2 = findViewById(R.id.num2);
       TextView ans = findViewById(R.id.ans);
        a = Float.parseFloat(num1.getText().toString());
       b = Float.parseFloat(num2.getText().toString());
       c = a - b;
       ans.setText(" " + a + " - " + b + " = " + c);
    public void handleMul(View view) {
        EditText num1 = findViewById(R.id.num1);
       EditText num2 = findViewById(R.id.num2);
       TextView ans = findViewById(R.id.ans);
       a = Float.parseFloat(num1.getText().toString());
       b = Float.parseFloat(num2.getText().toString());
        c = a * b;
        ans.setText(" " + a + " * " + " " + b + " = " + c);
```

```
public void handleDiv(View view) {
    EditText num1 = findViewById(R.id.num1);
    EditText num2 = findViewById(R.id.num2);
    TextView ans = findViewById(R.id.ans);

a = Float.parseFloat(num1.getText().toString());
    b = Float.parseFloat(num2.getText().toString());
    c = a / b;
    ans.setText(" " + a + " / " + " " + b + " = " + c);
}
```

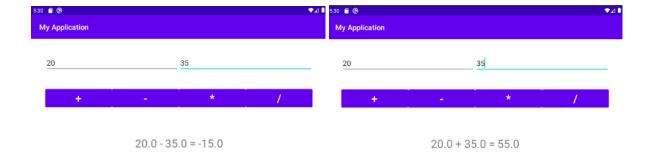
activity_main.xml

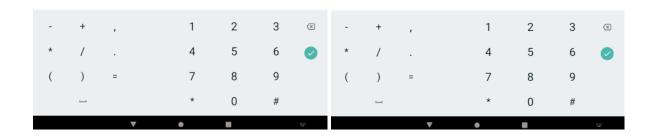
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"</pre>
   xmlns:app="http://schemas.android.com/apk/res-auto"
   xmlns:tools="http://schemas.android.com/tools"
   android:layout_width="match_parent"
   android:layout height="wrap content"
   android:orientation="vertical"
   tools:context=".MainActivity" >
   <LinearLayout</pre>
       android:layout width="match parent"
       android:layout height="wrap content"
       android:layout margin="50dp"
       android:orientation="horizontal">
       <EditText
           android:id="@+id/num1"
           android:layout_width="match_parent"
           android:layout height="wrap content"
           android:layout_weight="1"
           android:ems="10"
           android:hint="1st number"
           android:inputType="number|numberDecimal"
           tools:ignore="TouchTargetSizeCheck" />
       <EditText
           android:id="@+id/num2"
           android:layout_width="match_parent"
           android:layout_height="wrap_content"
           android:layout_weight="1"
           android:ems="10"
           android:hint="2nd Number"
           android:inputType="number|numberDecimal"
```

```
tools:ignore="TouchTargetSizeCheck" />
</LinearLayout>
<LinearLayout</pre>
    android:layout width="match parent"
    android:layout_height="wrap_content"
    android:layout weight="1"
    android:orientation="horizontal"
    android:layout_marginHorizontal="20dp">
    <Button
        android:id="@+id/add"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout weight="1"
        android:textSize="30dp"
        android:layout marginRight="10dp"
        android:onClick="handleAdd"
        android:text="+" />
    <Button
        android:id="@+id/sub"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:textSize="30dp"
        android:layout marginRight="10dp"
        android:onClick="handleSub"
        android:text="-" />
    <Button
        android:id="@+id/mul"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout weight="1"
        android:textSize="30dp"
        android:layout marginRight="10dp"
        android:onClick="handleMul"
        android:text="*" />
    <Button
        android:id="@+id/div"
        android:layout width="match parent"
        android:layout_height="wrap_content"
        android:layout weight="1"
        android:textSize="30dp"
        android:layout_marginRight="10dp"
        android:onClick="handleDiv"
        android:text="/" />
</LinearLayout>
```

Name: Sahil Halgekar

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Termwork 4

```
import androidx.appcompat.app.AppCompatActivity;
import android.app.AlertDialog;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
public class MainActivity extends AppCompatActivity implements
View.OnClickListener {
    EditText Rollno, Name, Marks;
    Button Insert, Delete, Update, View, ViewAll;
    SQLiteDatabase db;
   @Override
    public void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Rollno = (EditText) findViewById(R.id.roll);
        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.all);
        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) {
            // 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()) {
                db.execSQL("DELETE FROM student WHERE rollno='" +
Rollno.getText() + "'");
                showMessage("Success", "Record Deleted");
            } else {
                showMessage("Error", "Invalid Rollno");
            clearText();
        // Updating a record in the Student table
        if (view == Update) {
            // 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()) {
                db.execSQL("UPDATE student SET name='" + Name.getText() +
"',marks='" + Marks.getText() +
                        "' WHERE rollno='" + Rollno.getText() + "'");
                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) {
        AlertDialog.Builder builder = new AlertDialog.Builder(this);
        builder.setCancelable(true);
        builder.setTitle(title);
        builder.setMessage(message);
        builder.show();
    public void clearText() {
        Rollno.setText("");
        Name.setText("");
        Marks.setText("");
        Rollno.requestFocus();
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"</pre>
    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:layout margin="20dp"
    android:orientation="vertical"
    tools:context=".MainActivity" >
```

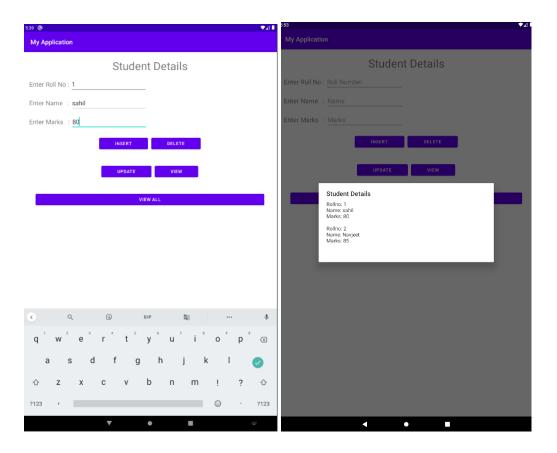
```
<TextView
   android:id="@+id/textView2"
    android:layout width="match parent"
    android:layout height="wrap content"
    android:text="Student Details"
    android:textSize="35dp"
    android:gravity="center"
<TableRow
    android:layout_width="match_parent"
   android:layout_height="wrap_content"
    android:layout_marginTop="10dp"
    <TextView
        android:id="@+id/rollView"
        android:layout width="wrap content"
        android:layout_height="wrap_content"
        android:text="Enter Roll No : "
        android:textSize="20dp"
    <EditText
        android:id="@+id/roll"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:ems="10"
        android:inputType="textPersonName"
        android:textSize="20dp"
        android:hint="Roll Number" />
</TableRow>
<TableRow
    android:layout width="match parent"
    android:layout height="wrap content"
    android:layout_marginTop="10dp"
    <TextView
        android:id="@+id/nameView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Enter Name
        android:textSize="20dp"
    <EditText
        android:id="@+id/name"
        android:layout width="wrap content"
        android:layout_height="wrap_content"
```

```
android:ems="10"
        android:inputType="textPersonName"
        android:textSize="20dp"
        android:hint="Name" />
</TableRow>
<TableRow
    android:layout width="match parent"
    android:layout height="wrap content"
    android:layout_marginTop="10dp"
    <TextView
        android:id="@+id/marksView"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:text="Enter Marks
        android:textSize="20dp"
    <EditText
        android:id="@+id/marks"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName"
        android:textSize="20dp"
        android:hint="Marks" />
</TableRow>
<TableRow
    android:layout width="match parent"
    android:layout_height="wrap_content"
    android:layout_margin="20dp"
    android:gravity="center"
    <Button
        android:id="@+id/insert"
        android:layout_width="wrap_content"
        android:layout height="wrap content"
        android:layout_marginRight="10dp"
        android:paddingHorizontal="50dp"
        android:text="Insert" />
    <Button
        android:id="@+id/delete"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:paddingHorizontal="50dp"
        android:text="Delete" />
</TableRow>
```

```
<TableRow
       android:layout_width="match_parent"
       android:layout_height="wrap_content"
       android:layout margin="20dp"
       android:gravity="center"
       <Button
           android:id="@+id/update"
           android:layout_width="wrap_content"
            android:layout_height="wrap_content"
           android:layout_marginRight="10dp"
           android:paddingHorizontal="50dp"
           android:text="Update" />
       <Button
           android:id="@+id/view"
           android:layout width="wrap content"
            android:layout_height="wrap_content"
           android:paddingHorizontal="50dp"
           android:text="View" />
   </TableRow>
   <Button
       android:id="@+id/all"
       android:layout width="match parent"
       android:layout_height="wrap_content"
       android:layout_margin="20dp"
       android:text="View All" />
</LinearLayout>
```

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Termwork 5

```
package com.example.tw5;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.NotificationCompat;
import androidx.core.app.NotificationManagerCompat;
import android.app.Notification;
import android.app.NotificationChannel;
import android.app.NotificationManager;
import android.os.Build;
import android.os.Build;
```

```
import android.view.View;
import android.widget.Button;
public class MainActivity extends AppCompatActivity {
    Button notifyBtn;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        notifyBtn = findViewById(R.id.button);
        if(Build.VERSION.SDK INT >= Build.VERSION CODES.O){
            NotificationChannel channel = new NotificationChannel("My
Notification","My Notification", NotificationManager.IMPORTANCE DEFAULT);
            NotificationManager manager =
getSystemService(NotificationManager.class);
            manager.createNotificationChannel(channel);
        notifyBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                NotificationCompat.Builder builder = new
NotificationCompat.Builder(MainActivity.this,"My Notification");
                builder.setContentTitle("My Notification");
                builder.setContentText("This is the notification you
received");
                builder.setAutoCancel(true);
                builder.setSmallIcon(R.drawable.ic launcher background);
                builder.setPriority(NotificationCompat.PRIORITY DEFAULT);
                NotificationManagerCompat managerCompat =
NotificationManagerCompat.from(MainActivity.this);
                managerCompat.notify(1,builder.build());
        });
<?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"
    tools:context=".MainActivity"
    android:layout margin="100dp">
    <Button
        android:id="@+id/button"
        android:layout width="match parent"
```

```
android:layout_height="wrap_content"
    android:gravity="center"
    android:layout_marginTop="150dp"
    android:text="Get notification" />
</LinearLayout>
```

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