```
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"</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"
   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"
</RelativeLavout>
```

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### Activity\_main2.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="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"</pre>
```

```
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"
    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"
```

## MainActivity.xml

```
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);
}

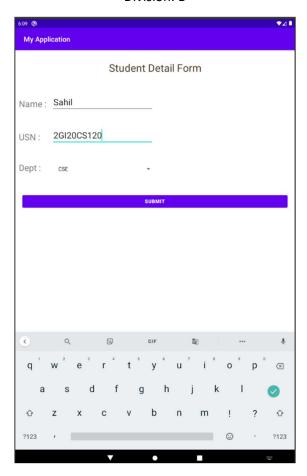
public void onSubmit(View view) {
    EditText nameObj = (EditText) findViewById(R.id.name);
    EditText usnObj = (EditText) findViewById(R.id.usn);
    Spinner deptObj = (Spinner) findViewById(R.id.dept);
    name = nameObj.getText().toString();
    usn = usnObj.getText().toString();
    dept = deptObj.getSelectedItem().toString();

    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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### MainActivity.java

```
package com.example.calcu;
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);
```

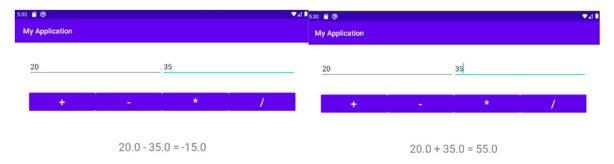
### activity\_main.xml

```
<?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>
   <LinearLayout</pre>
        android:layout_width="match_parent"
       android:layout height="match parent"
       android:orientation="horizontal"
       android:layout_marginHorizontal="20dp"
       android:layout marginTop="100dp"
       <TextView
            android:id="@+id/ans"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout weight="1"
            android:textSize="20dp"
            android:hint="Answer will appear here" />
   </LinearLayout>
</LinearLayout>
```

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```
package com.example.tw4;
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("");
```

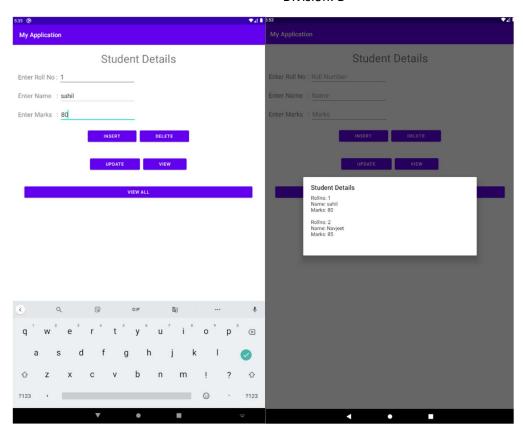
```
Marks.setText("");
        Rollno.requestFocus();
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"</pre>
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout width="match 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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```
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.Bundle;
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.0){
            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"</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"
    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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