Exercise 8 – SMS Sending and Notification

Aim:

Develop an android app that sends SMS and creates an alert upon receiving the SMS with text in the notification.

Code:

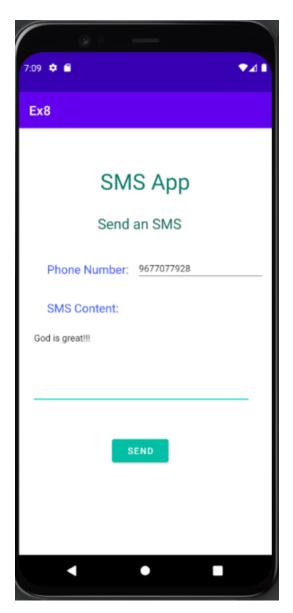
```
//activity main.xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout</pre>
xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:app="http://schemas.android.com/apk/res-auto"
  xmlns:tools="http://schemas.android.com/tools"
   android:layout width="match parent"
   android:layout height="match parent"
   tools:context=".MainActivity">
<TextView
android:id="@+id/textView2"
android:layout width="wrap content"
android:layout_height="wrap_content"
android:text="SMS App"
android:textAppearance="@style/TextAppearance.AppCompat.Display1"
android:textColor="#067A6A"
app:layout constraintBottom toBottomOf="parent"
app:layout constraintLeft toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout constraintTop toTopOf="parent"
app:layout_constraintVertical_bias="0.096" />
<TextView
android:id="@+id/textView"
android:layout_width="wrap_content"
android:layout height="wrap content"
android:layout_marginTop="28dp"
android:layout marginEnd="140dp"
android:text="Send an SMS"
android:textAppearance="@style/TextAppearance.AppCompat.Large"
android:textColor="#0C675A"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintTop_toBottomOf="@+id/textView2" />
<TextView
android:id="@+id/phno"
```

```
android:layout_width="wrap_content"
android:layout height="wrap content"
android:layout marginStart="44dp"
android:layout marginTop="44dp"
android:text="Phone Number:"
android:textAppearance="@style/TextAppearance.AppCompat.Medium"
android:textColor="#304FFE"
app:layout constraintStart toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/textView" />
<TextView
android:id="@+id/smstv"
android:layout width="wrap content"
android:layout height="wrap content"
android:layout marginStart="44dp"
android:layout marginTop="104dp"
android:text="SMS Content:"
android:textAppearance="@style/TextAppearance.AppCompat.Medium"
android:textColor="#304FFE"
app:layout constraintStart toStartOf="parent"
app:layout constraintTop toBottomOf="@+id/textView" />
<EditText
android:id="@+id/etPhone"
android:layout_width="199dp"
android:layout height="39dp"
android:layout marginStart="12dp"
android:layout marginTop="36dp"
android:ems="10"
android:inputType="phone"
android:textAppearance="@style/TextAppearance.AppCompat.Body1"
app:layout_constraintStart_toEndOf="@+id/phno"
app:layout_constraintTop_toBottomOf="@+id/textView" />
<EditText
android:id="@+id/content"
android:layout width="341dp"
android:layout height="123dp"
android:layout marginTop="68dp"
android:layout marginEnd="32dp"
android:ems="10"
android:gravity="start|top"
android:hint="Type here"
android:inputType="textMultiLine"
android:textAppearance="@style/TextAppearance.AppCompat.Body1"
app:layout_constraintEnd_toEndOf="parent"
app:layout constraintTop toBottomOf="@+id/etPhone" />
<Button
android:id="@+id/sendbtn"
android:layout width="wrap content"
```

```
android:layout_height="wrap_content"
android:layout marginTop="48dp"
android:layout_marginEnd="160dp"
android:backgroundTint="#00BFA5"
android:text="SEND"
app:layout constraintEnd toEndOf="parent"
app:layout_constraintTop_toBottomOf="@+id/content" />
</androidx.constraintlayout.widget.ConstraintLayout>
//MainActivity.java
package com.example.ex8;
import android.Manifest;
import android.content.pm.PackageManager;
import android.os.Bundle;
import android.telephony.SmsManager;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;
import androidx.core.content.ContextCompat;
public class MainActivity extends AppCompatActivity {
 private static final int MY_PERMISSIONS_REQUEST_SEND_SMS = 0;
 Button sendBtn;
 EditText txtphoneNo;
 EditText txtMessage;
 String phoneNo;
 String message;
 @Override
 protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
   setContentView(R.layout.activity main);
   sendBtn = (Button) findViewById(R.id.sendbtn);
   txtphoneNo = (EditText) findViewById(R.id.etPhone);
   txtMessage = (EditText) findViewById(R.id.content);
   sendBtn.setOnClickListener(new View.OnClickListener() {
     public void onClick(View view) {
        sendSMSMessage();
   });
 protected void sendSMSMessage() {
```

```
phoneNo = txtphoneNo.getText().toString();
   message = txtMessage.getText().toString();
   if (ContextCompat.checkSelfPermission(this, Manifest.permission.SEND_SMS)
        != PackageManager.PERMISSION_GRANTED) {
     if (ActivityCompat.shouldShowRequestPermissionRationale(
             this, Manifest.permission.SEND_SMS)) {
     } else {
       ActivityCompat.requestPermissions(this,
            new String[] {Manifest.permission.SEND_SMS},
            MY_PERMISSIONS_REQUEST_SEND_SMS);
     }
   }
 }
 @Override
 public void{onRequestPermissionsResult(int requestCode, String permissions[],
int[] grantResults)
switch (requestCode) {
     case MY_PERMISSIONS_REQUEST_SEND_SMS: {
       if (grantResults.length > 0
            && grantResults[0] == PackageManager.PERMISSION_GRANTED) {
         SmsManager smsManager = SmsManager.getDefault();
          smsManager.sendTextMessage(phoneNo, null, message, null, null);
         Toast.makeText(getApplicationContext(), "SMS sent.",
Toast.LENGTH LONG).show();
       }
 else {
         Toast.makeText(getApplicationContext(), "SMS failed, please try
again.",Toast.LENGTH_LONG).show();
         return;
       }
     }
```

Output:



Learning outcomes:

- An android application to send an SMS was implemented.
- A notification for the SMS was also implemented.