EX:NO:11 SEND SMS REG.NO:210701701

DATE:18/04/2024

AIM:-

Develop an application to send SMS.

PROCEDURE:-

Step 1: Create a new Android Project.

Step 2: Design the user Interface.

Step 3: Implement SMS sending and receiving.

Step 4: Handle SMS reception.

Step 5: Test the application.

Step 6: Handle edge cases.

Step 7: Optimize and refine.

PRGRAM CODE:-

AndroidManifest.xml:

```
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.smssenderreceiver">
    <uses-permission android:name="android.permission.SEND_SMS" />
    <uses-permission android:name="android.permission.RECEIVE_SMS" />
    <uses-permission android:name="android.permission.READ_SMS" />
    <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>
        <receiver android:name=".SmsReceiver">
            <intent-filter>
             <action android:name="android.provider.Telephony.SMS_RECEIVED" />
            </intent-filter>
        </receiver>
    </application>
</manifest>
```

activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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">
<!-- Input field to enter phone number -->
<EditText
    android:id="@+id/editTextPhone"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Phone Number" />
<!-- Input field to enter message -->
<EditText
    android:id="@+id/editTextMessage"
    android:layout_below="@id/editTextPhone"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="16dp"
    android:hint="Message" />
<!-- Button to send SMS -->
<Button
    android:id="@+id/buttonSend"
    android:layout_below="@id/editTextMessage"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="16dp"
```

```
        android:text="Send SMS" />
    <!-- TextView to display received SMS -->
    <TextView
        android:id="@+id/textViewReceivedSms"
        android:layout_below="@id/buttonSend"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="16dp"
        android:text="Received SMS:"
        android:textStyle="bold" />
</RelativeLayout>
```

MainActivity.kt:

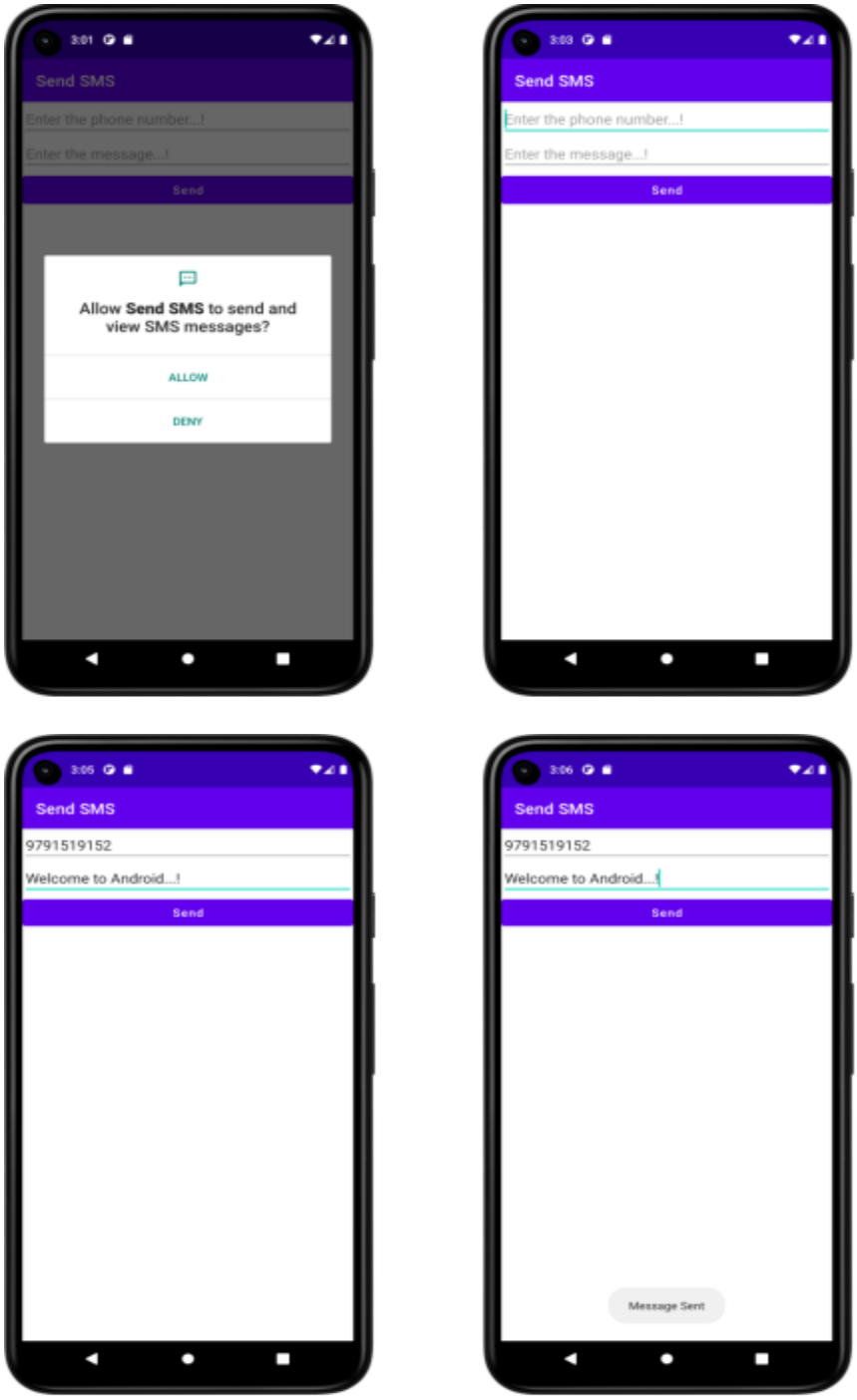
```
package com.example.smssenderreceiver
import android.Manifest
import android.content.BroadcastReceiver
import android.content.Context
import android.content.Intent
import android.content.IntentFilter
import android.content.pm.PackageManager
import android.os.Build
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.telephony.SmsManager
```

```
import android.widget.Button
import android.widget.EditText
import android.widget.TextView
import android.widget.Toast
class MainActivity : AppCompatActivity() {
    private lateinit var editTextPhone: EditText
    private lateinit var editTextMessage: EditText
    private lateinit var buttonSend: Button
    private lateinit var textViewReceivedSms: TextView
    private val smsReceiver: BroadcastReceiver = object : BroadcastReceiver() {
        override fun onReceive(context: Context, intent: Intent) {
            if (intent.action == "android.provider.Telephony.SMS_RECEIVED") {
                val bundle = intent.extras
                if (bundle != null) {
                    val pdus = bundle.get("pdus") as Array<*>
                    for (pdu in pdus) {
                        val smsMessage = SmsMessage.createFromPdu(pdu as ByteArray)
                        val sender = smsMessage.originatingAddress
                        val messageBody = smsMessage.messageBody
                        val receivedMessage = "From: $sender\nMessage: $messageBody"
                        textViewReceivedSms.append("\n\n$receivedMessage")
                    }
                }
```

```
            }
        }
    }
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        editTextPhone = findViewById(R.id.editTextPhone)
        editTextMessage = findViewById(R.id.editTextMessage)
        buttonSend = findViewById(R.id.buttonSend)
        textViewReceivedSms = findViewById(R.id.textViewReceivedSms)
        // Request SMS permissions if not granted
        if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.M &&
            checkSelfPermission(Manifest.permission.SEND_SMS) !=
PackageManager.PERMISSION_GRANTED
        ) {
            requestPermissions(arrayOf(Manifest.permission.SEND_SMS), 1)
        }
        // Register SMS receiver
        registerReceiver(smsReceiver,
IntentFilter("android.provider.Telephony.SMS_RECEIVED"))
        // Send SMS button click listener
        buttonSend.setOnClickListener {
            val phoneNumber = editTextPhone.text.toString().trim()
```

```
            val message = editTextMessage.text.toString().trim()
            if (phoneNumber.isNotEmpty() && message.isNotEmpty()) {
                sendSms(phoneNumber, message)
            } else {
                Toast.makeText(this, "Phone number and message cannot be empty",
Toast.LENGTH_SHORT).show()
            }
        }}
    override fun onDestroy() {
        super.onDestroy()
        // Unregister SMS receiver
        unregisterReceiver(smsReceiver)}
    private fun sendSms(phoneNumber: String, message: String) {
        try {
            val smsManager = SmsManager.getDefault()
            smsManager.sendTextMessage(phoneNumber, null, message, null, null)
            Toast.makeText(this, "SMS sent successfully",
Toast.LENGTH_SHORT).show()
        } catch (e: Exception) {
            e.printStackTrace()
            Toast.makeText(this, "Failed to send SMS",
Toast.LENGTH_SHORT).show()}
    }
}
```

OUTPUT:-



RESULT:-

Thus to develop an application to send SMS is implemented and executed successfully.