Ex. No. : 08a **Date:**

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Send SMS

Aim

Develop an application to Send SMS.

Procedure:

1. Create a new Android project in Android Studio with an empty activity.
2. Design activity_main.xml with two EditText fields (for phone number and message) and a Button (to send SMS).
3. In AndroidManifest.xml, add the permission <uses-permission android:name="android.permission.SEND_SMS" />.
4. In MainActivity.java, initialize the EditText fields and Button.
5. Set an onClickListener for the "Send SMS" button.
6. Retrieve the phone number and message from the EditText fields.
7. Use SmsManager to send the SMS.
8. Ensure the phone number and message are not empty before sending.
9. Display a Toast message to indicate if the SMS was sent successfully or if there was an error.
10. Test the app on a real device to ensure it sends the SMS properly.

AndroidManifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
  package="com.example.ex8a">
  <!-- Permissions -->
  <uses-feature
     android:name="android.hardware.telephony"
     android:required="false" />
  <uses-permission android:name="android.permission.SEND_SMS" />
  <uses-permission android:name="android.permission.READ_PHONE_STATE" />
  <application
     android:allowBackup="true"
     android:label="Send SMS App"
     android:roundIcon="@mipmap/ic_launcher_round"
     android:supportsRtl="true"
     android:theme="@style/Theme.Ex8a">
     <activity android:name=".MainActivity"
        android:exported="true">
        <intent-filter>
           <action android:name="android.intent.action.MAIN" />
           <category android:name="android.intent.category.LAUNCHER" />
        </intent-filter>
     </activity>
  </application>
</manifest>
```

Activity_main.xml

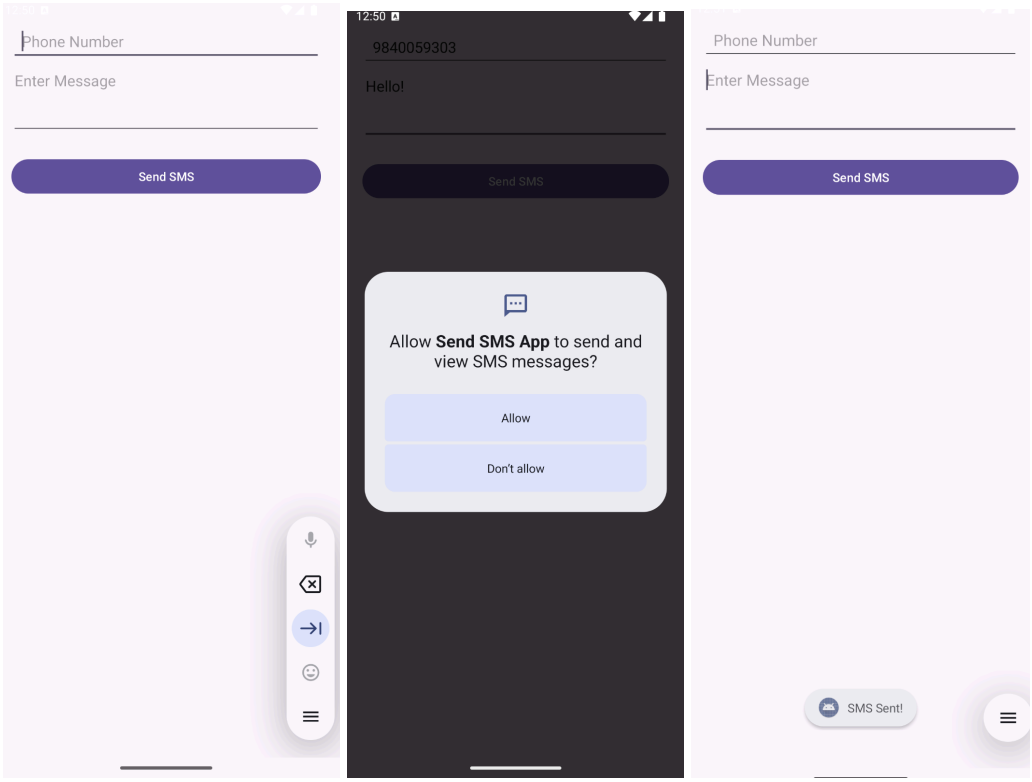
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
  xmlns:android="http://schemas.android.com/apk/res/android"
  android:orientation="vertical"
  android:padding="24dp"
  android:layout_width="match_parent"
  android:layout_height="match_parent">
  <EditText
    android:id="@+id/etPhoneNumber"
    android:hint="Phone Number"
    android:inputType="phone"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:minHeight="48dp"
    android:padding="12dp"/>
  <EditText
    android:id="@+id/etMessage"
    android:hint="Enter Message"
    android:inputType="textMultiLine"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:minLines="3"
    android:gravity="top"/>
  <Button
    android:id="@+id/btnSend"
    android:text="Send SMS"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="24dp"/>
</LinearLayout>
```


MainActivity.kt

```
package com.example.ex8a
import android.Manifest
import android.content.pm.PackageManager
import android.os.Bundle
import android.telephony.SmsManager
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
class MainActivity : AppCompatActivity() {
  private lateinit var etPhoneNumber: EditText
  private lateinit var etMessage: EditText
  private lateinit var btnSend: Button
  private val SMS_PERMISSION_CODE = 100
  override fun onCreate(savedInstanceState: Bundle?) {
    super.onCreate(savedInstanceState)
    setContentView(R.layout.activity_main)
    etPhoneNumber = findViewById(R.id.etPhoneNumber)
    etMessage = findViewById(R.id.etMessage)
    btnSend = findViewById(R.id.btnSend)
    btnSend.setOnClickListener {
      sendSMS()
    }
  }
  private fun sendSMS() {
    val phoneNumber = etPhoneNumber.text.toString().trim()
    val message = etMessage.text.toString().trim()
    if (phoneNumber.isEmpty() || message.isEmpty()) {
            Toast.makeText(this, "Please enter phone number and message",
Toast.LENGTH_SHORT).show()
      return
    }
    if (ContextCompat.checkSelfPermission(this, Manifest.permission.SEND_SMS)
      != PackageManager.PERMISSION_GRANTED) {
      // Request permission
      ActivityCompat.requestPermissions(this,
        arrayOf(Manifest.permission.SEND_SMS),
        SMS_PERMISSION_CODE)
    } else {
      // Permission granted
```

```
            try {
                val smsManager: SmsManager = SmsManager.getDefault()
                smsManager.sendTextMessage(phoneNumber, null, message, null, null)
                Toast.makeText(this, "SMS Sent!", Toast.LENGTH_SHORT).show()
                etPhoneNumber.text.clear()
                etMessage.text.clear()
            } catch (e: Exception) {
                                Toast.makeText(this, "Sending Failed: ${e.message}",
Toast.LENGTH_LONG).show()
                e.printStackTrace()
            }
        }
    }
        override fun onRequestPermissionsResult(requestCode: Int, permissions:
Array<String>, grantResults: IntArray) {
        super.onRequestPermissionsResult(requestCode, permissions, grantResults)
        if (requestCode == SMS_PERMISSION_CODE) {
                            if (grantResults.isNotEmpty() && grantResults[0] ==
PackageManager.PERMISSION_GRANTED) {
                sendSMS()
            } else {
                                                Toast.makeText(this, "Permission Denied",
Toast.LENGTH_SHORT).show()
            }
        }
    }
}
```


Output



Result:

The application successfully sends an SMS with the entered message to a specified phone number using an SMS gateway API in Android