Name	:	**V Vikram**	**Class**	: CSE 'C'
Reg. No.	:	**18 5001 194**	**Date**	: 31/10/2021
Subject	:	**UCS1711---Mobile Application Development Lab**		

Ex. No.9 Implement an application that send a SMS

AIM :

To create an android application that sends a SMS and creates an alert upon receiving the SMS.

CODE :

activity_main.xml :

```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
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:backgroundTint="@color/teal_700"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView1"
        android:layout_width="107dp"
        android:layout_height="70dp"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="32dp"
        android:text="SMS"
        android:textColor="@color/black"
        android:textSize="50dp"
        android:textStyle="bold"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
```

```xml
    <EditText
        android:id="@+id/editTextNumber"
        android:layout_width="211dp"
        android:layout_height="43dp"
        android:layout_below="@+id/imageButton"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="236dp"
        android:hint="Enter Phone Number"
        android:textColorHint="@color/abc_primary_text_material_dark"
        android:textSize="20dp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.47"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        tools:ignore="UnknownId" />

    <EditText
        android:id="@+id/editTextMsg"
        android:layout_width="224dp"
        android:layout_height="87dp"
        android:layout_below="@+id/editTextNumber"
        android:layout_alignStart="@+id/editTextNumber"
        android:layout_alignLeft="@+id/editTextNumber"
        android:layout_marginTop="328dp"
        android:hint="Enter message to be sent"
        android:textColorHint="@color/abc_primary_text_material_dark"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/btnSend"
        android:layout_width="128dp"
        android:layout_height="72dp"
        android:layout_below="@+id/editTextMsg"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="472dp"
        android:backgroundTint="@color/teal_700"
        android:onClick="sendSMSMessage"
        android:text="Send"
        android:textSize="30dp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />


</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java :

```java
package com.example.v1_sms;

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 REQUEST_SEND_SMS_PERMISSION =1 ;
    Button sendBtn;
    EditText phoneNo;
    EditText message;
    String number;
    String msg_content;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        sendBtn = (Button) findViewById(R.id.btnSend);
        phoneNo = (EditText) findViewById(R.id.editTextNumber);
        message = (EditText) findViewById(R.id.editTextMsg);
    }

    public void sendSMSMessage(View view) {
        number = phoneNo.getText().toString();
        msg_content = message.getText().toString();

        if (ContextCompat.checkSelfPermission(this,
Manifest.permission.SEND_SMS)
                != PackageManager.PERMISSION_GRANTED) {
            if (ActivityCompat.shouldShowRequestPermissionRationale(this,
                    Manifest.permission.SEND_SMS)) {
                Toast.makeText(getApplicationContext(), "Need permission.",
                        Toast.LENGTH_LONG).show();
            } else {
                ActivityCompat.requestPermissions(this,
                        new String[]{Manifest.permission.SEND_SMS},
                        REQUEST_SEND_SMS_PERMISSION);
            }
```

```java
        }
    }

    @Override
    public void onRequestPermissionsResult(int requestCode,String
permissions[], int[] grantResults) {
        super.onRequestPermissionsResult(requestCode, permissions,
grantResults);
        Toast.makeText(getApplicationContext(), "control here.",
                Toast.LENGTH_LONG).show();
//        super.onRequestPermissionsResult(requestCode, permissions,
grantResults);
        switch (requestCode) {
            case REQUEST_SEND_SMS_PERMISSION: {
                if
(permissions[0].equalsIgnoreCase(Manifest.permission.SEND_SMS)
                        && grantResults[0] ==
PackageManager.PERMISSION_GRANTED) {
                    try {
                        SmsManager smsManager = SmsManager.getDefault();
                        smsManager.sendTextMessage(number, null, msg_content,
null, null);

                        Toast.makeText(getApplicationContext(), "SMS SENT.",
                                Toast.LENGTH_LONG).show();
                    } catch (Exception e) {
                        Toast.makeText(getApplicationContext(), e.toString(),
                                Toast.LENGTH_LONG).show();
                    }

                } else {
                    Toast.makeText(getApplicationContext(),
                            "SMS failed, please try again.",
Toast.LENGTH_LONG).show();
                    return;
                }
            }
        }

    }
}
```

AndroidManifest.xml :

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.v1_sms">
    <uses-permission android:name="android.permission.SEND_SMS" />
    <uses-permission android:name="android.permission.RECEIVE_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/Theme.V1SMS">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

</manifest>
```
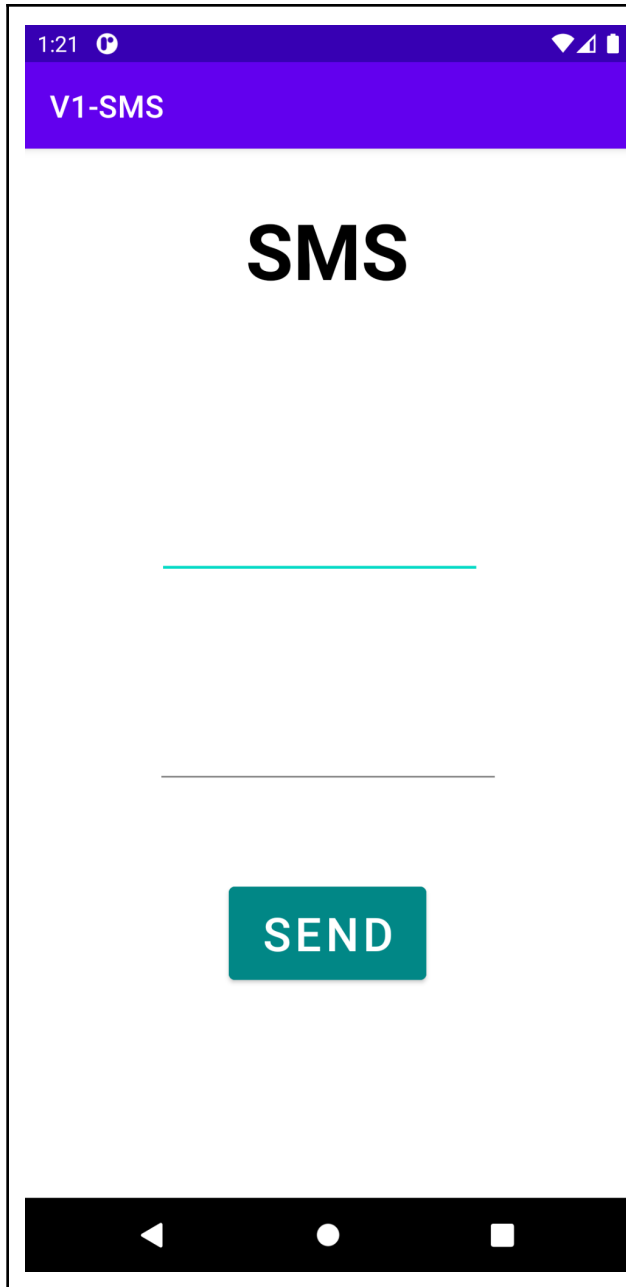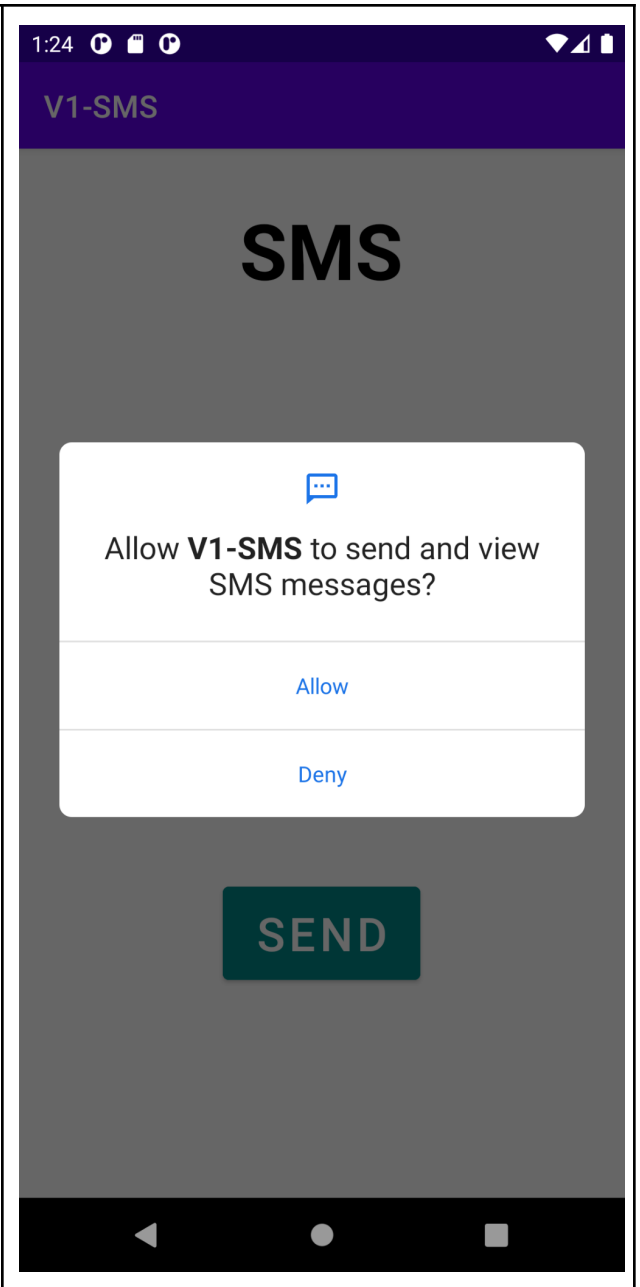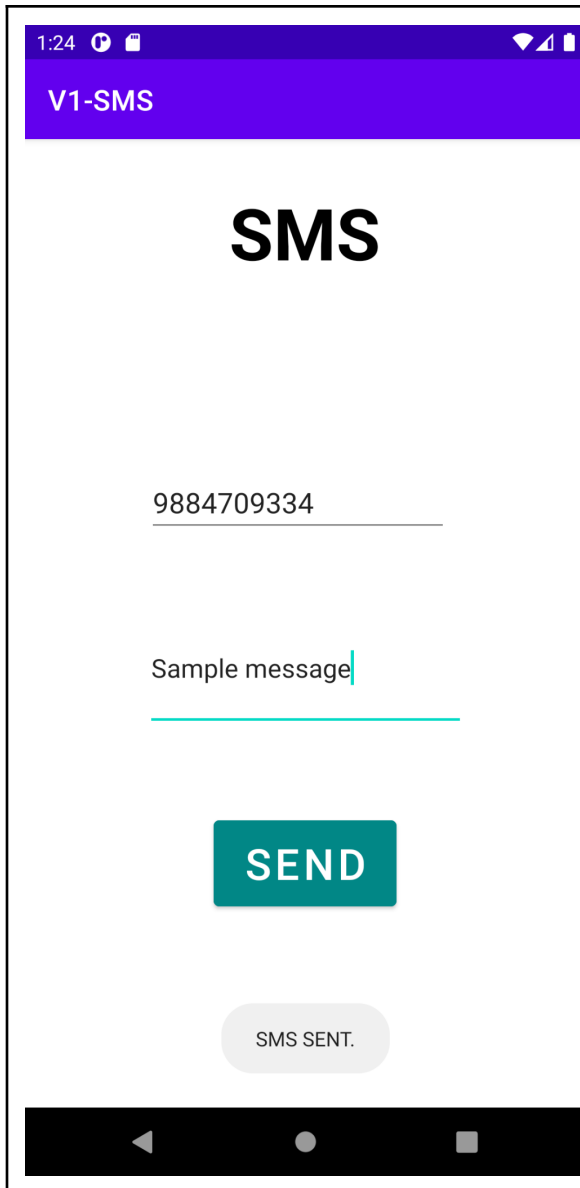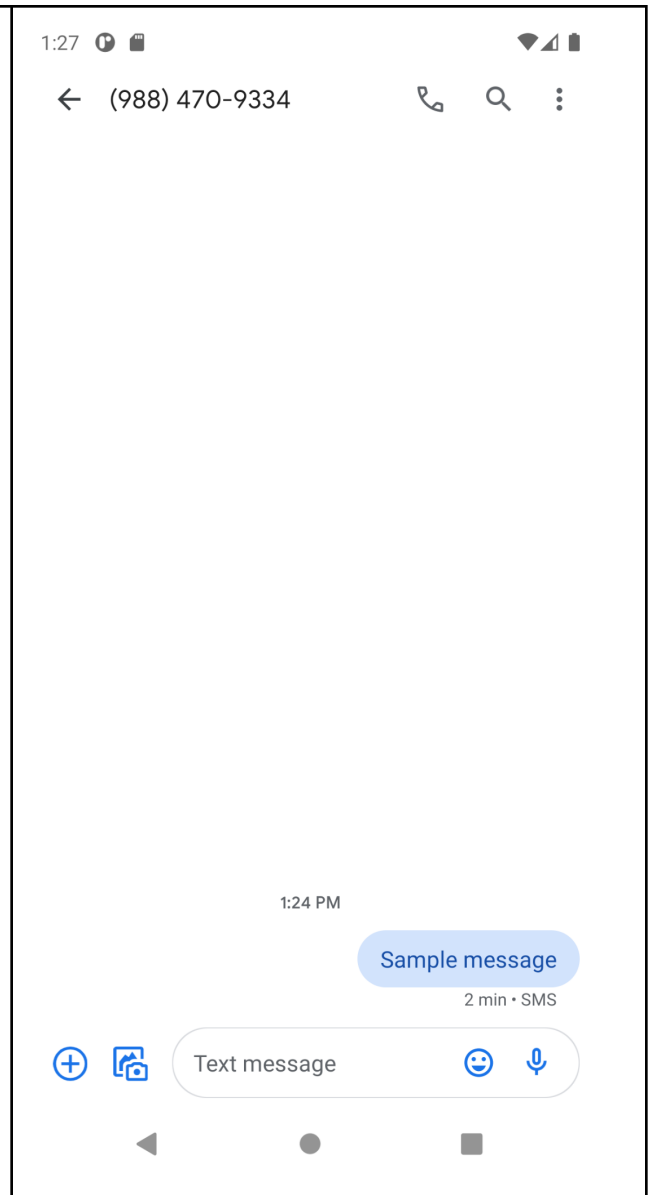
Output Snapshots:

Home page   **Requesting permission**

Home page	Requesting permission
1:21 V1-SMS **SMS** **SEND**	1:24 V1-SMS **SMS** Allow **V1-SMS** to send and view SMS messages? Allow Deny SEND

Message sent

1:24

V1-SMS

SMS

9884709334

Sample message

SEND

SMS SENT.

Messages App

1:27

(988) 470-9334

1:24 PM

Sample message

2 min • SMS

Text message

LEARNING OUTCOMES :