**Practical Related Questions**

1. **Explain the use of SmsManagerClass.**

* SMSManager class manages operations like sending a text message, data message, and multimedia messages (MMS). For sending a text message method sendTextMessage() is used likewise for multimedia message  sendMultimediaMessage() and for data message sendDataMessage() method is used.

1. **List changes that are need to be done in AndroidMainfest.XML file to send and receive messages.**

We need to add permission to send and receive SMS.

We also need to add receiver class to perform certain action when SMS is received.

**Exercise**

**MainActivity.java**

package com.example.smsmanager;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
import android.telephony.SmsManager;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.Toast;  
  
public class MainActivity extends AppCompatActivity {  
  
 EditText ph, msg;  
 Button b;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 b = (Button) findViewById(R.id.*button*);  
 ph = (EditText) findViewById(R.id.*editTextPhone*);  
 msg = (EditText) findViewById(R.id.*editTextTextMultiLine*);  
  
 b.setOnClickListener(new View.OnClickListener(){  
 @Override  
 public void onClick(View view){  
 String phone = (String) ph.getText().toString();  
 String message = (String) msg.getText().toString();  
  
 try{  
 SmsManager smsManager = SmsManager.*getDefault*();  
 smsManager.sendTextMessage(phone, null, message, null, null);  
 Toast.*makeText*(MainActivity.this, "SMS sent", Toast.*LENGTH\_LONG*).show();  
 }  
 catch(Exception e){  
 Toast.*makeText*(MainActivity.this, "Failed to send SMS: " + e.getMessage().toString(), Toast.*LENGTH\_LONG*).show();  
 e.printStackTrace();  
 }  
  
 }  
 });  
 }  
}

**SmsBroadcastReceiver.java**

package com.example.smsmanager;  
  
import android.content.BroadcastReceiver;  
import android.content.Context;  
import android.content.Intent;  
import android.os.Bundle;  
import android.telephony.SmsMessage;  
import android.widget.Toast;  
  
public class SmsBroadcastReceiver extends BroadcastReceiver {  
 public static final String *SMS\_BUNDLE* = "pdus";  
 @Override  
 public void onReceive(Context context, Intent intent) {  
 // *TODO: This method is called when the BroadcastReceiver is receiving* // an Intent broadcast.  
 Bundle intentExtras = intent.getExtras();  
 if (intentExtras != null) {  
 Object[] sms = (Object[]) intentExtras.get(*SMS\_BUNDLE*);  
 String smsMessageStr = "";  
 for (int i = 0; i < sms.length; ++i) {  
 SmsMessage smsMessage = SmsMessage.*createFromPdu*((byte[]) sms[i]);  
  
 String smsBody = smsMessage.getMessageBody().toString();  
 String address = smsMessage.getOriginatingAddress();  
  
 smsMessageStr += "SMS From: " + address + "\n";  
 smsMessageStr += smsBody + "\n";  
 }  
 Toast.*makeText*(context, smsMessageStr, Toast.*LENGTH\_SHORT*).show();  
 }  
 }  
}

**activity\_main.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"  
 tools:context=".MainActivity">  
  
 <EditText  
 android:id="@+id/editTextPhone"  
 android:layout\_width="270dp"  
 android:layout\_height="56dp"  
 android:ems="10"  
 android:hint="Phone No"  
 android:inputType="phone"  
 app:layout\_constraintBottom\_toTopOf="@+id/editTextTextMultiLine"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.489"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.871" />  
  
 <EditText  
 android:id="@+id/editTextTextMultiLine"  
 android:layout\_width="272dp"  
 android:layout\_height="39dp"  
 android:layout\_marginBottom="68dp"  
 android:ems="10"  
 android:gravity="start|top"  
 android:hint="Enter Message"  
 android:inputType="textMultiLine"  
 app:layout\_constraintBottom\_toTopOf="@+id/button"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.496"  
 app:layout\_constraintStart\_toStartOf="parent" />  
  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="262dp"  
 android:layout\_height="55dp"  
 android:layout\_marginBottom="304dp"  
 android:text="Send SMS"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.496"  
 app:layout\_constraintStart\_toStartOf="parent" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>