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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.
2. **List changes that are need to be done in AndroidManifest.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.

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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();
                }
            }
        });
    }
}
```

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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"
```

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```
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>
```