Experiment 2.3

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1. Aim:

To design an android application and Send SMS using Intents.

2. Objective:

To learn about intents and how to use them.
Learn to scroll and drag in android studio.

3. Steps:

1. Create a new Android Studio project and open it.
2. In the project structure, create a new layout file for the user interface of the messaging activity. You can name it activity_message.xml.
3. Add the necessary UI elements to the layout file. For example, you can include an EditText for the message content, a Button to send the message, and a ListView to display the conversation history.
4. Create a new Java class for the messaging activity. You can name it MessageActivity.java.
5. In the MessageActivity class, initialize the UI elements by using the findViewById() method.
6. Create a new adapter class that extends the BaseAdapter class to handle the conversation history ListView.
7. In the MessageActivity class, instantiate the adapter and set it as the adapter for the ListView.
8. Create a new Java class for the message data model. You can name it Message.java.
9. In the Message class, define the necessary properties for a message object, such as the sender name, message content, and timestamp.
10. In the MessageActivity class, create an ArrayList to store the conversation history.
11. When the send button is clicked, retrieve the message content from the EditText and create a new Message object with the appropriate properties.
12. Add the new Message object to the conversation history ArrayList and notify the adapter that the data has changed.
13. Display the new message in the ListView by using the getView() method of the adapter.

4. Code and output:

MainActivity.java

```java
package com.example.expintent;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;
import android.Manifest;
import android.content.pm.PackageManager;
import android.os.Bundle;
import android.telephony.SmsManager;
import android.view.View;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity {
    EditText editTextNumber;
    EditText editTextMessage;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        ActivityCompat.requestPermissions(MainActivity.this,new
String[]{Manifest.permission.SEND_SMS,android.Manifest.permission.READ_SMS},Packa
geManager.PERMISSION_GRANTED);
        editTextMessage=findViewById(R.id.editTextTextMultiLine);
        editTextNumber=findViewById(R.id.editTextNumber);
    }
    public void sendSMS(View v){
        String message = editTextMessage.getText().toString();
        String number = editTextNumber.getText().toString();
        SmsManager mysmsManager = SmsManager.getDefault();
        mysmsManager.sendTextMessage(number,null,message,null,null);
    }
}
```

AndroidManifest.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">
    <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:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
```

```
                android:label="@string/app_name"
                android:supportsRtl="true"
                android:theme="@style/Theme.ExpIntent"
                tools:targetApi="31">
                <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"?>
<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/editTextTextMultiLine"
        android:layout_width="252dp"
        android:layout_height="115dp"
        android:ems="10"
        android:gravity="start|top"
        android:hint="Write your Text"
        android:inputType="textMultiLine"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.496"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.201" />
    <EditText
        android:id="@+id/editTextNumber"
        android:layout_width="wrap_content"
        android:layout_height="61dp"
        android:ems="10"
        android:hint="Type your Number"
        android:inputType="number"
        app:layout_constraintBottom_toBottomOf="parent"
```

```
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintHorizontal_bias="0.497"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toTopOf="parent"
            app:layout_constraintVertical_bias="0.477" />
        <Button
            android:id="@+id/button"
            android:layout_width="123dp"
            android:layout_height="62dp"
            android:onClick="sendSMS"
            android:text="Done"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toTopOf="parent"
            app:layout_constraintVertical_bias="0.723" />
    </androidx.constraintlayout.widget.ConstraintLayout>
```

9:25 pm

Hello!
    I am Yash Gupta, UID - 20BCS5009

Hello!
    I am Yash Gupta, UID - 20BCS5009

9:25 pm

😊 Okay Great! 😟

Text message

Exp Intent

Hello!
    I am Yash Gupta, UID - 20BCS5009

_____

8618097212

DONE