

Highlight – The lines to be added manually in the Manifest file.

1. **Write a program to create an Activity to read Employee Details (EmpId, Name, Age, Address) from user and store to database and create a menu with menu item (Show Details) on pressing menu details it must go to another activity with employee id search box and search button and display the employee details on the screen.**

Activity_main.xml

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:gravity="center"
    >

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Employee_id" />

    <EditText android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/txt_id"/>

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Employee_name" />

    <EditText android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/txt_name"/>

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Employee_age" />

    <EditText android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/txt_age"/>

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Employee_address" />

    <EditText android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/txt_address"/>
```

```

<LinearLayout
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:layout_gravity="center">

    <Button android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:text="Submit"
        android:layout_gravity="center"
        android:id="@+id/btn_submit"/>

    <Button android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:text="Search"
        android:layout_gravity="center"
        android:id="@+id/btn_search"/>

</LinearLayout>
</LinearLayout>

```

Search.xml

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical" >

    <TextView
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"

        android:text="Enter Employee id" />

    <EditText android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/txt_empid"/>

    <Button android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Search"
        android:layout_gravity="center"
        android:id="@+id/txt_search"/>

    <TextView
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:text="Text view"
        android:id="@+id/txt_display"/>

</LinearLayout>

```

Manifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.employeedetails"
    android:versionCode="1"
    android:versionName="1.0" >

    <uses-sdk
        android:minSdkVersion="8"
        android:targetSdkVersion="18" />

    <application
        android:allowBackup="true"
        android:icon="@drawable/ic_launcher"
        android:label="@string/app_name"
        android:theme="@style/AppTheme" >
        <activity
            android:name="com.example.employeedetails.MainActivity"
            android:label="@string/app_name" >
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

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

</manifest>
```

MainActivity.java

```
package com.example.employeedetails;

import android.os.Bundle;
import android.app.Activity;
import android.content.ContentValues;
import android.content.Intent;
import android.database.sqlite.SQLiteDatabase;
import android.view.Menu;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends Activity implements OnClickListener {

    EditText txtid,txtname,txtage,txtaddress;
    Button btnsubmit,btnsearch;
```

```

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    txtid=(EditText)findViewById(R.id.txt_id);
    txtname=(EditText)findViewById(R.id.txt_name);
    txtage=(EditText)findViewById(R.id.txt_age);
    txtaddress=(EditText)findViewById(R.id.txt_address);
    btnsubmit=(Button)findViewById(R.id.btn_submit);
    btnsubmit.setOnClickListener(this);
    btnsearch=(Button)findViewById(R.id.btn_search);
    btnsearch.setOnClickListener(this);
}

@Override
public boolean onCreateOptionsMenu(Menu menu) {
    // Inflate the menu; this adds items to the action bar if it is
    present.
    getMenuInflater().inflate(R.menu.main, menu);
    return true;
}

@Override
public void onClick(View v) {
    // TODO Auto-generated method stub
    Toast.makeText(this, "buttonclicked", 15000).show();

    if(v.equals(btnsubmit))
    {

        String sid=txtid.getText().toString();
        String sname=txtname.getText().toString();
        String sage=txtage.getText().toString();
        String saddress=txtaddress.getText().toString();

        MyDatabase dat=new
MyDatabase(this,MyDatabase.DATABASE_NAME, null, 1);

        SQLiteDatabase database=dat.getWritableDatabase();
        ContentValues cv= new ContentValues();
        cv.put("id", sid);
        cv.put("name", sname);
        cv.put("age", sage );
        cv.put("address", saddress);
        database.insert("Employee", null, cv);
        database.close();
        Toast.makeText(this, "Data Inserted successfully",
15000).show();
    }
    else if(v.equals(btnsearch))
    {
        Intent it=new Intent(this,SearchActivity.class);
        startActivity(it);
    }
}

```

```
    }  
}
```

MyDatabase.java

```
package com.example.employeedetails;  
  
import android.content.Context;  
import android.database.sqlite.SQLiteDatabase;  
import android.database.sqlite.SQLiteDatabase.CursorFactory;  
import android.database.sqlite.SQLiteOpenHelper;  
  
public class MyDatabase extends SQLiteOpenHelper  
{  
    public static String DATABASE_NAME="Employee.db";  
    public static String EMPLOYEE_TABLE="employee";  
  
    public MyDatabase(Context context, String name, CursorFactory factory,  
        int version) {  
        super(context, name, factory, version);  
        // TODO Auto-generated constructor stub  
    }  
  
    @Override  
    public void onCreate(SQLiteDatabase db) {  
        // TODO Auto-generated method stub  
        db.execSQL("create table employee (id TEXT,name TEXT,age  
TEXT,address TEXT)");  
    }  
  
    @Override  
    public void onUpgrade(SQLiteDatabase arg0, int arg1, int arg2) {  
        // TODO Auto-generated method stub  
    }  
}
```

SearchActivity.java

```
package com.example.employeedetails;  
  
import android.app.Activity;  
import android.database.Cursor;  
import android.database.sqlite.SQLiteDatabase;  
import android.os.Bundle;  
import android.view.View;  
import android.view.View.OnClickListener;
```

```

import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

public class SearchActivity extends Activity implements OnClickListener{

    EditText txttempid;
    Button btnsearch;
    TextView txtdisplay;

    public void onCreate(Bundle b)
    {
        super.onCreate(b);
        setContentView(R.layout.search);

        txttempid=(EditText) findViewById(R.id.txt_empid);
        btnsearch=(Button) findViewById(R.id.txt_search);
        txtdisplay=(TextView) findViewById(R.id.txt_display);

        btnsearch.setOnClickListener(this);

    }

    @Override
    public void onClick(View v) {
        // TODO Auto-generated method stub
        Toast.makeText(this, "Button clicked", 15000).show();
        if(v.equals(btnsearch))
        {

            String eid=txttempid.getText().toString();

            MyDatabase dat=new MyDatabase(this, MyDatabase.DATABASE_NAME,
null, 1);

            SQLiteDatabase database=dat.getReadableDatabase();
            String[] columns=new String[] {"id","name","age","address"};
            String where="id=?";
            String[] value= new String[]{eid.trim()};
            Cursor cu=database.query(MyDatabase.EMPLOYEE_TABLE, columns,
where , value, null, null, null);
            txtdisplay.setText("");
            if(cu.moveToNext())
            {

                String id=cu.getString(0);
                String name=cu.getString(1);
                String age=cu.getString(2);
                String address=cu.getString(3);

                txtdisplay.append(id+ " " +name+ " "+age+ "
"+address+"\n");
            }

            else

```

```
        {  
            Toast.makeText(this, "No Id Exist", 15000).show();  
        }  
  
    }  
  
}
```

2. Write a program to create an activity with a text box and three buttons (save, open and create) open must allow to browse the text file from sdcard and must display the contents of the file on textbox, save button must save the contents of text box to file, create button must allow file user to create a new file and save the entered contents of the textbox.

Activity_main.xml

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:gravity="center">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:gravity="center">

        <Button android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Create new file"
            android:id="@+id/btn_create"
            android:layout_gravity="left"/>

        <Button android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Open"
            android:id="@+id/btn_open"
            android:layout_gravity="right"/>

    </LinearLayout>

    <TextView
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:text="File:"
        android:id="@+id/lbl_file" />

    <EditText android:layout_width="match_parent"
        android:layout_height="200dp"
        android:id="@+id/txt_content"/>

    <Button android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Save"
        android:layout_gravity="center"
        android:id="@+id/btn_save"/>
```



```
</LinearLayout>
```

Dialog_layout.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical" >

    <TextView    android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Enter File Name"/>

        <EditText  android:layout width="match_parent"
            android:layout_height="wrap_content"
            android:id="@+id/txt_filename"/>

</LinearLayout>
```

Manifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.p2"
    android:versionCode="1"
    android:versionName="1.0" >

    <uses-sdk
        android:minSdkVersion="8"
        android:targetSdkVersion="18" />
    <uses-permission
        android:name="android.permission.WRITE_EXTERNAL_STORAGE"/>

    <application
        android:allowBackup="true"
        android:icon="@drawable/ic_launcher"
        android:label="@string/app_name"
        android:theme="@style/AppTheme" >
        <activity
            android:name="com.example.p2.MainActivity"
            android:label="@string/app_name" >
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

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

</manifest>
```

MainActivity.java

```
package com.example.p2;

import java.io.BufferedReader;
import java.io.File;
import java.io.FileInputStream;
import java.io.FileOutputStream;
import java.io.IOException;
import java.io.InputStreamReader;
import java.io.OutputStreamWriter;

import android.os.Bundle;
import android.app.Activity;
import android.app.AlertDialog;
import android.content.DialogInterface;
import android.content.Intent;
import android.view.Menu;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends Activity implements OnClickListener {

    TextView lblFile;
    EditText txtContent;
    Button btnCreate, btnSave, btnOpen;

    int FILE_CHOOSE_REQUEST=1;

    String filepath;

    String filename;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        lblFile=(TextView) findViewById(R.id.lbl_file);

        txtContent=(EditText) findViewById(R.id.txt_content);

        btnCreate=(Button) findViewById(R.id.btn_create);
        btnCreate.setOnClickListener(this);

        btnSave=(Button) findViewById(R.id.btn_save);
        btnSave.setOnClickListener(this);

        btnOpen=(Button) findViewById(R.id.btn_open);
        btnOpen.setOnClickListener(this);
    }
}
```

```

    }

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        // Inflate the menu; this adds items to the action bar if it is
present.
        getMenuInflater().inflate(R.menu.main, menu);
        return true;
    }

    public void onActivityResult(int requestCode, int resultCode, Intent data)
    {
        super.onActivityResult(requestCode, resultCode, data);

        if(resultCode==RESULT_OK)
        {
            filepath=data.getData().getPath();
            filename=filepath.substring(filepath.lastIndexOf("/")+1);
            filepath=filepath.substring(0,filepath.lastIndexOf("/"));

            readFromFile(filepath,filename);
            lblFile.setText(filepath+"/"+filename);
        }
        else
        {
            Toast.makeText(this,"Wrong Choice of File",
Toast.LENGTH_LONG).show();
        }

    }

    public void writeFile(String path,String filename)
    {
        try {
            FileOutputStream fileout=new FileOutputStream(new
File(path+"/"+filename));

            fileout.write(txtContent.getText().toString().getBytes());
            fileout.close();

            //display file saved message
            Toast.makeText(getApplicationContext(), "File Saved
successfully!",
Toast.LENGTH_SHORT).show();

        } catch (Exception e) {
            Toast.makeText(getApplicationContext(), e.getMessage(),
Toast.LENGTH_SHORT).show();
        }
    }
}

```

```

    public void readFromFile(String path,String filename)
    {
        try {
            FileInputStream fileIn=new
FileInputStream(path+"/"+filename);
            InputStreamReader inputReader= new
InputStreamReader(fileIn);

            BufferedReader br=new BufferedReader(inputReader);
            String data=br.readLine();
            while(data!=null)
            {
                txtContent.append(data);
                data=br.readLine();
            }
            br.close();

        } catch (Exception e) {
            Toast.makeText(getBaseContext(),e.getMessage(),
                Toast.LENGTH_SHORT).show();
        }
    }

    public void onShowCreateDialog()
    {
        AlertDialog.Builder builder=new AlertDialog.Builder(this);
        final View
dialogView=getLayoutInflater().inflate(R.layout.dialog_layout, null);
        builder.setView(dialogView);
        builder.setPositiveButton("Ok", new DialogInterface.OnClickListener() {

            @Override
            public void onClick(DialogInterface arg0, int arg1) {
                // TODO Auto-generated method stub
                EditText
txtFilename=(EditText)dialogView.findViewById(R.id.txt_filename);
                filepath="/data";
                filename=txtFilename.getText().toString();
                File f=new File(filepath+"/"+filename);
                try {
                    f.createNewFile();
                } catch (IOException e) {
                    // TODO Auto-generated catch block
                    Toast.makeText(getBaseContext(),
""+e.getMessage(), Toast.LENGTH_LONG).show();
                }

                lblFile.setText(filepath+"/"+filename);

            }

        });
        builder.setNegativeButton("Cancel", null);
        AlertDialog dialog=builder.create();
        dialog.show();
    }

```

```
}

@Override
public void onClick(View v) {
    // TODO Auto-generated method stub

    if(v.equals(btnOpen))
    {
        Intent it=new Intent(Intent.ACTION_GET_CONTENT);
        //it.setType("*.");
        it.setType("file/*");
        startActivityForResult(it, 0);
    }
    else if(v.equals(btnCreate))
    {
        onShowCreateDialog();
    }
    else if(v.equals(btnSave))
    {
        writeFile(filepath, filename);
    }

}

}
```

3. Write a program to create an activity with two text boxes (date /time and note contents). Create a content provider to store the date and time and note contents to the database. Create another program with a Button (Fetch Today Notes) on press must access the note provider and display the notes stored for today's date.

Content Provider part

Activity_main.xml

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:gravity="center"
    android:orientation="vertical" >

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Enter Date:" />

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/txt_date" />

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Enter Note Content:" />

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/txt_Content"
        android:height="200dp" />

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Add Note"
        android:id="@+id/btn_add_note" />

</LinearLayout>
```

Manifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.p3noteprovider"
```

```

        android:versionCode="1"
        android:versionName="1.0" >

        <uses-sdk
            android:minSdkVersion="8"
            android:targetSdkVersion="18" />

        <application
            android:allowBackup="true"
            android:icon="@drawable/ic_launcher"
            android:label="@string/app_name"
            android:theme="@style/AppTheme" >
            <activity
                android:name="com.example.p3noteprovider.MainActivity"
                android:label="@string/app_name" >
                <intent-filter>
                    <action android:name="android.intent.action.MAIN" />

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

            <provider android:name="NotesProvider"
                android:authorities="com.example.notesprovider"
                android:exported="true"/>

        </application>

</manifest>

```

MainActivity.java

```

package com.example.p3noteprovider;

import android.net.Uri;
import android.os.Bundle;
import android.app.Activity;
import android.content.ContentResolver;
import android.content.ContentValues;
import android.view.Menu;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends Activity implements OnClickListener {

    EditText txtDate,txtContent;
    Button btnAddNote;

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

```

```

        txtDate=(EditText)findViewById(R.id.txt_date);
        txtContent=(EditText)findViewById(R.id.txt_Content);

        btnAddNote=(Button)findViewById(R.id.btn_add_note);
        btnAddNote.setOnClickListener(this);
    }

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        // Inflate the menu; this adds items to the action bar if it is
present.
        getMenuInflater().inflate(R.menu.main, menu);
        return true;
    }

    @Override
    public void onClick(View v) {
        // TODO Auto-generated method stub

        if(v.equals(btnAddNote))
        {
            String sdate=txtDate.getText().toString();
            String scontent=txtContent.getText().toString();

            ContentValues values = new ContentValues();
            values.put("note_date",sdate);
            values.put("content",scontent);

            ContentResolver cresolver=getContentResolver();

cresolver.insert(Uri.parse("content://com.example.notesprovider/notes"),
values);

            Toast.makeText(getBaseContext(),"Data Inserted
Successfully", Toast.LENGTH_LONG).show();
        }
    }
}

```

NotesProvider.java

```

package com.example.p3noteprovider;

import android.content.ContentProvider;
import android.content.ContentValues;
import android.content.Context;
import android.content.UriMatcher;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteQueryBuilder;
import android.net.Uri;

```



```

public class NotesProvider extends ContentProvider
{

    static final String URL = "content://com.example.notesprovider/notes";

    SQLiteDatabase db;
    ProviderDatabase dbHelper;

    @Override
    public int delete(Uri arg0, String arg1, String[] arg2) {
        // TODO Auto-generated method stub
        return 0;
    }

    @Override
    public String getType(Uri arg0) {
        // TODO Auto-generated method stub
        return null;
    }

    @Override
    public Uri insert(Uri arg0, ContentValues cv) {
        // TODO Auto-generated method stub
        db = dbHelper.getWritableDatabase();
        db.insert(ProviderDatabase.TABLE_NAME, null, cv);
        db.close();
        return null;
    }

    @Override
    public boolean onCreate() {
        // TODO Auto-generated method stub

        dbHelper= new
ProviderDatabase(getContext(), ProviderDatabase.DATABASE_NAME+".db", null, 1);

        return (db == null)? false:true;

    }

    @Override
    public Cursor query(Uri uri, String[] arg1, String arg2, String[] arg3,
        String arg4) {
        // TODO Auto-generated method stub

        Cursor cursor=null;

        db = dbHelper.getReadableDatabase();
        cursor =
db.query(ProviderDatabase.TABLE_NAME, arg1, arg2, arg3, arg4, null, null);

```

```

        return cursor;
    }

    @Override
    public int update(Uri arg0, ContentValues arg1, String arg2, String[]
arg3) {
        // TODO Auto-generated method stub
        return 0;
    }
}

```

ProviderDatabase.java

```

package com.example.p3noteprovider;

import android.content.Context;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteDatabase.CursorFactory;
import android.database.sqlite.SQLiteOpenHelper;

public class ProviderDatabase extends SQLiteOpenHelper
{
    public static String DATABASE_NAME="noteprovider";
    public static String TABLE_NAME="notes";
    public static String COLUMN_DATE="note_date";
    public static String COLUMN_NOTE="content";

    public ProviderDatabase(Context context, String name,
        CursorFactory factory, int version) {
        super(context, name, factory, version);
        // TODO Auto-generated constructor stub
    }

    @Override
    public void onCreate(SQLiteDatabase db) {
        // TODO Auto-generated method stub

        db.execSQL("create table notes (note_date TEXT,content TEXT)");

    }

    @Override
    public void onUpgrade(SQLiteDatabase db, int arg1, int arg2) {
        // TODO Auto-generated method stub
    }
}

```

```
}
```

Content Resolver part

Activity main.xml

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:orientation="vertical"
    android:gravity="center">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Enter Date to Search"/>

    <EditText    android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/txt_search"/>

    <Button    android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/btn_search"
        android:text="Search"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Data To Show"
        android:id="@+id/lbl_message"/>

</LinearLayout>
```

Manifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.p3providerclient"
    android:versionCode="1"
    android:versionName="1.0" >

    <uses-sdk
        android:minSdkVersion="8"
        android:targetSdkVersion="18" />

    <application
        android:allowBackup="true"
```

```

        android:icon="@drawable/ic_launcher"
        android:label="@string/app_name"
        android:theme="@style/AppTheme" >
        <activity
            android:name="com.example.p3providerclient.MainActivity"
            android:label="@string/app_name" >
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

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

</manifest>

```

MainActivity.java

```

package com.example.p3providerclient;

import android.net.Uri;
import android.os.Bundle;
import android.app.Activity;
import android.content.ContentValues;
import android.database.Cursor;
import android.view.Menu;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends Activity implements OnClickListener {

    EditText txtSearch;
    Button btnSearch;

    TextView lblMessage;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        txtSearch=(EditText) findViewById(R.id.txt_search);
        lblMessage=(TextView) findViewById(R.id.lbl_message);

        btnSearch=(Button) findViewById(R.id.btn_search);
        btnSearch.setOnClickListener(this);

    }

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {

```

```

        // Inflate the menu; this adds items to the action bar if it is
present.
        getMenuInflater().inflate(R.menu.main, menu);
        return true;
    }

    @Override
    public void onClick(View v) {
        // TODO Auto-generated method stub

        if(v.equals(btnSearch))
        {
            String searchData=txtSearch.getText().toString();
            String where="note_date=?";
            Cursor
cursor=getContentResolver().query(Uri.parse("content://com.example.notesprovi
der/notes"),new String[]{"note_date","content"},where, new
String[]{searchDate},null);

            if(cursor!=null&&cursor.moveToNext())
            {

                String ndate=cursor.getString(0);
                String content=cursor.getString(1);

                lblMessage.setText(ndate+" "+content+"\n");
            }
            else
            {
                Toast.makeText(getApplicationContext(),"No Data Available",
Toast.LENGTH_LONG).show();
            }
        }
    }
}

```

4. Create a program to create an activity with two buttons start and stop. On pressing start button the program must start the counter and must keep on counting until stop button is pressed.

Activity_main.xml

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:gravity="center">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/counter"
        android:layout_gravity="center"
        android:id="@+id/lbl_counter"/>

    <Button android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/start"
        android:layout_gravity="center"
        android:id="@+id/btn_start"/>

    <Button android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/stop"
        android:layout_gravity="center"
        android:id="@+id/btn_stop"/>

</LinearLayout>
```

Manifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.p4"
    android:versionCode="1"
    android:versionName="1.0" >

    <uses-sdk
        android:minSdkVersion="8"
        android:targetSdkVersion="18" />

    <application
        android:allowBackup="true"
        android:icon="@drawable/ic_launcher"
        android:label="@string/app_name"
        android:theme="@style/AppTheme" >
```

```

        <activity
            android:name="com.example.p4.MainActivity"
            android:label="@string/app_name" >
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

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

</manifest>

```

MainActivity.java

```

package com.example.p4;

import android.os.Bundle;
import android.os.Handler;
import android.os.Message;
import android.app.Activity;
import android.view.Menu;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.TextView;

public class MainActivity extends Activity implements OnClickListener,
Runnable{

    int i=0;
    TextView lblcounter;
    Button btnstart,btnstop;
    Thread thread;

    boolean running=false;

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

        btnstart=(Button) findViewById(R.id.btn_start);
        btnstop=(Button) findViewById(R.id.btn_stop);
        btnstart.setOnClickListener(this);
        btnstop.setOnClickListener(this);

        lblcounter=(TextView) findViewById(R.id.lbl_counter);

    }

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {

```

```

        // Inflate the menu; this adds items to the action bar if it is
present.
        getMenuInflater().inflate(R.menu.main, menu);
        return true;
    }

    @Override
    public void onClick(View v) {
        // TODO Auto-generated method stub
        if (v.equals(btnstart))
        {
            running=true;
            thread=new Thread(this);
            thread.start();
        }

        else if (v.equals(btnstop))
        {
            //thread.interrupt();
            running=false;
        }
    }

    Handler hand=new Handler()
    {
        public void handleMessage(Message m)
        {
            lblcounter.setText("" + m.what);
        }
    };

    @Override
    public void run() {
        // TODO Auto-generated method stub
        // int i=0;

        while (i<100 && running)

        {
            try {
                Thread.sleep(1000);
            } catch (InterruptedException e) {
                // TODO Auto-generated catch block
                e.printStackTrace();
            }
            hand.sendEmptyMessage(i);
            i++;
            // lblcounter.setText("" + i);
        }
    }
}

```


5. Create a program to receive the incoming SMS to the phone and put a notification on screen, on clicking the notification it must display sender number and message content on screen. (Broadcast Receiver)

Activity_main.xml

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:gravity="center">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Sender Number"
        android:paddingBottom="50px"
        android:id="@+id/lbl_number"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Message content"
        android:id="@+id/lbl_message"/>

</LinearLayout>
```

Manifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.p5"
    android:versionCode="1"
    android:versionName="1.0" >

    <uses-sdk
        android:minSdkVersion="8"
        android:targetSdkVersion="18" />
    <uses-permission android:name="android.permission.RECEIVE_SMS"/>

    <application
        android:allowBackup="true"
        android:icon="@drawable/ic_launcher"
        android:label="@string/app_name"
        android:theme="@style/AppTheme" >
        <activity
            android:name="com.example.p5.MainActivity"
            android:label="@string/app_name" >
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```

```

        <category android:name="android.intent.category.LAUNCHER" />
    </intent-filter>
</activity>
<receiver android:name="com.example.p5.MySmsReceiver">
    <intent-filter>
        <action android:name="android.provider.Telephony.SMS_RECEIVED"/>
    </intent-filter>
</receiver>

</application>

</manifest>

```

MainActivity.java

```

package com.example.p5;

import android.os.Bundle;
import android.app.Activity;
import android.view.Menu;
import android.widget.TextView;

public class MainActivity extends Activity {

    TextView lblnumber, lblmessage;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        lblnumber=(TextView) findViewById(R.id.lbl_number);
        lblmessage=(TextView) findViewById(R.id.lbl_message);
        Bundle b= getIntent().getBundleExtra("data");

        if(b!=null)
        {
            String number=b.getString("number");
            String content=b.getString("content");

            lblnumber.setText(number);
            lblmessage.setText(content);
        }

    }

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        // Inflate the menu; this adds items to the action bar if it is
        present.
        getMenuInflater().inflate(R.menu.main, menu);
        return true;
    }

}

```

MySmsReceiver.java

```
package com.example.p5;

import android.content.BroadcastReceiver;
import android.content.Context;
import android.content.Intent;
import android.os.Bundle;
import android.telephony.SmsMessage;

public class MySmsReceiver extends BroadcastReceiver{

    @Override
    public void onReceive(Context arg0, Intent arg1) {
        // TODO Auto-generated method stub

        Object[] objmessages=(Object[])arg1.getExtras().get("pdus");
        for(int i=0; i<objmessages.length;i++)
        {
            SmsMessage
m=SmsMessage.createFromPdu((byte[])objmessages[i]);
            Bundle b1=new Bundle();
            b1.putString("number", m.getOriginatingAddress());
            b1.putString("content", m.getMessageBody());

            Intent it=new Intent(arg0, MainActivity.class);
            it.putExtra("data", b1);
            it.setFlags(Intent.FLAG_ACTIVITY_NEW_TASK);
            arg0.startActivity(it);

            break;
        }
    }
}
```

6. Create a program to create a service that will put a notification on the screen every 5 seconds.

Activity_main.xml

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:gravity="center" >

    <Button android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Start Notification"
        android:layout_gravity="center"
        android:id="@+id/btn_start"/>

    <Button android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Stop Notification"
        android:layout_gravity="center"
        android:id="@+id/btn_stop"/>

</LinearLayout>
```

Manifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.p6"
    android:versionCode="1"
    android:versionName="1.0" >

    <uses-sdk
        android:minSdkVersion="8"
        android:targetSdkVersion="18" />

    <application
        android:allowBackup="true"
        android:icon="@drawable/ic_launcher"
        android:label="@string/app_name"
        android:theme="@style/AppTheme" >
        <activity
            android:name="com.example.p6.MainActivity"
            android:label="@string/app_name" >
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

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

```

        <service android:name="ServiceClass"></service>

    </application>

</manifest>

```

MainActivity.java

```

package com.example.p6;

import android.os.Bundle;
import android.app.Activity;
import android.content.Intent;
import android.view.Menu;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.Toast;

public class MainActivity extends Activity implements OnClickListener{

    Button btnstart,btnstop;

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

        btnstart=(Button)findViewById(R.id.btn_start);
        btnstart.setOnClickListener(this);
        btnstop=(Button)findViewById(R.id.btn_stop);
        btnstop.setOnClickListener(this);
    }

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        // Inflate the menu; this adds items to the action bar if it is
present.
        getMenuInflater().inflate(R.menu.main, menu);
        return true;
    }

    @Override
    public void onClick(View v) {
        // TODO Auto-generated method stub

        if(v.equals(btnstart))
        {
            Intent it=new Intent(this,ServiceClass.class);
            Bundle b=new Bundle();
            b.putBoolean("stop", true);
            it.putExtra("data", b);
            startService(it);
        }
    }
}

```

```

        else
        {
            /*Intent it=new Intent(this,ServiceClass.class);
            Bundle b=new Bundle();
            b.putBoolean("stop", false);
            it.putExtra("data", b);
            startService(it);To stop the notification but it will not
            stop the service, to stop we use stoService()*/

            Intent it=new Intent(this,ServiceClass.class);
            stopService(it);
        }
    }
}

```

ServiceClass.java

```

package com.example.p6;

import android.app.Notification;
import android.app.NotificationManager;
import android.app.PendingIntent;
import android.app.Service;
import android.content.Intent;
import android.os.Bundle;
import android.os.Handler;
import android.os.IBinder;
import android.os.Message;
import android.support.v4.app.NotificationCompat;
import android.view.ViewDebug.FlagToString;
import android.widget.Toast;

public class ServiceClass extends Service{

    boolean running=false;
    MyThread thread;

    public void onCreate()
    {
        super.onCreate();
        Toast.makeText(getApplicationContext(), "Service Created",
Toast.LENGTH_LONG).show();
        running=true;
        thread=new MyThread();
        thread.start();
    }

    public int onStartCommand(Intent intent, int flags,int startId)
    {
        super.onStartCommand(intent, flags, startId);
        Toast.makeText(getApplicationContext(), "Service started",
Toast.LENGTH_LONG).show();
        Bundle b=intent.getBundleExtra("data");
    }
}

```



```
        e.printStackTrace();
    }

    hand.sendMessage(i++);
}

}
```


7. Create an .aidl service to do add, subtraction and multiplication and create another application with two buttons to read the inputs and three button add,subtract and multiply to call add,subtract and multiply operation on .aidl service.

Part-1 (has an empty layout)

Activity main.xml

-NA-

Manifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.p7"
    android:versionCode="1"
    android:versionName="1.0" >

    <uses-sdk
        android:minSdkVersion="8"
        android:targetSdkVersion="18" />

    <application
        android:allowBackup="true"
        android:icon="@drawable/ic_launcher"
        android:label="@string/app_name"
        android:theme="@style/AppTheme" >
        <activity
            android:name="com.example.p7.MainActivity"
            android:label="@string/app_name" >
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
        <service
            android:name="MyCalService">
            <intent-filter>
                <action android:name="com.simple.cal"/>
            </intent-filter>
        </service>

    </application>
</manifest>
```

Calculator.aidl

Create a new package and under this, new-> file-> save with .aidl extension

```

package com.example.cal;

interface calculator
{
    int add(int a, int b);
    int sub(int a, int b);
    int mul(int a, int b);
}

```

MyCalService.java

```

package com.example.p7;

import com.example.cal.calculator;

import android.app.Service;
import android.content.Intent;
import android.os.IBinder;
import android.os.RemoteException;

public class MyCalService extends Service{

    @Override
    public IBinder onBind(Intent arg0) {
        // TODO Auto-generated method stub
        return stub;
    }

    calculator.Stub stub=new calculator.Stub() {

        @Override
        public int sub(int a, int b) throws RemoteException {
            // TODO Auto-generated method stub
            return a-b;
        }

        @Override
        public int mul(int a, int b) throws RemoteException {
            // TODO Auto-generated method stub
            return a*b;
        }

        @Override
        public int add(int a, int b) throws RemoteException {
            // TODO Auto-generated method stub
            return a+b;
        }

    };
}

```

Part-2

Activity main.xml

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:gravity="center" >

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Enter first number" />

    <EditText android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/txt_first"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Enter second number" />

    <EditText android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/txt_second"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="result"
        android:id="@+id/txt_result"/>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="horizontal"
        android:gravity="center">

        <Button android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="add"
            android:layout_gravity="center"
            android:id="@+id/btn_add"/>

        <Button android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="sub"
            android:layout_gravity="center"
            android:id="@+id/btn_sub"/>

        <Button android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="mul"
            android:layout_gravity="center"
            android:id="@+id/btn_mul"/>

    </LinearLayout>
</LinearLayout>
```

Manifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.p7_1"
    android:versionCode="1"
    android:versionName="1.0" >

    <uses-sdk
        android:minSdkVersion="8"
        android:targetSdkVersion="18" />

    <application
        android:allowBackup="true"
        android:icon="@drawable/ic_launcher"
        android:label="@string/app_name"
        android:theme="@style/AppTheme" >
        <activity
            android:name="com.example.p7_1.MainActivity"
            android:label="@string/app_name" >
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

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

    </application>

</manifest>
```

Calculator.aidl

Create a new package and under this, new-> file-> save with .aidl extension

```
package com.example.cal;

interface calculator
{
    int add(int a, int b);
    int sub(int a, int b);
    int mul(int a, int b);
}
```

MainActivity.java

```
package com.example.p7_1;

import com.example.cal.calculator;
```

```

import android.os.Bundle;
import android.os.IBinder;
import android.os.RemoteException;
import android.app.Activity;
import android.content.ComponentName;
import android.content.Intent;
import android.content.ServiceConnection;
import android.view.Menu;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends Activity implements OnClickListener,
ServiceConnection{

    EditText txtfirst, txtsecond;
    Button btnadd,btnsub,btnmul;
    TextView txtresult;

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

        txtfirst=(EditText) findViewById(R.id.txt_first);
        txtsecond=(EditText) findViewById(R.id.txt_second);
        txtresult=(TextView) findViewById(R.id.txt_result);
        btnadd=(Button) findViewById(R.id.btn_add);
        btnadd.setOnClickListener(this);
        btnsub=(Button) findViewById(R.id.btn_sub);
        btnsub.setOnClickListener(this);
        btnmul=(Button) findViewById(R.id.btn_mul);
        btnmul.setOnClickListener(this);

        bindService(new Intent("com.simple.cal"), this, BIND_AUTO_CREATE);
    }

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        // Inflate the menu; this adds items to the action bar if it is
present.
        getMenuInflater().inflate(R.menu.main, menu);
        return true;
    }

    @Override
    public void onClick(View v) {
        // TODO Auto-generated method stub

        String s1=txtfirst.getText().toString();
        String s2=txtsecond.getText().toString();

```

```

int a=Integer.parseInt(s1);
int b=Integer.parseInt(s2);

if(v.equals(btnadd))
{
    try {
        int result=cal.add(a,b);
        txtresult.setText(""+result);
    } catch (RemoteException e) {
        // TODO Auto-generated catch block
        e.printStackTrace();
    }
}

else if(v.equals(btnsub))
{
    try {
        int result=cal.sub(a,b);
        txtresult.setText(""+result);
    } catch (RemoteException e) {
        // TODO Auto-generated catch block
        e.printStackTrace();
    }
}

else if(v.equals(btnmul))
{
    try {
        int result=cal.mul(a,b);
        txtresult.setText(""+result);
    } catch (RemoteException e) {
        // TODO Auto-generated catch block
        e.printStackTrace();
    }
}
}

@Override
public void onServiceConnected(ComponentName arg0, IBinder arg1) {
    // TODO Auto-generated method stub
    Toast.makeText(getApplicationContext(), "Service Connected",
Toast.LENGTH_LONG).show();
    cal=(calculator)calculator.Stub.asInterface(arg1);
}

@Override
public void onServiceDisconnected(ComponentName arg0) {
    // TODO Auto-generated method stub
}
}

```

8. Create an activity like a phone dialer with (1,2,3,4,5,6,7,8,9,0,*,#) buttons and call and save button on pressing the call button, it must call the phone number and on pressing the save button it must save the number to the phone contacts.

Activity main.xml

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:gravity="center"
    android:orientation="vertical" >

    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        >

        <Button
            android:id="@+id/btn_del"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Del"
            android:layout_alignParentRight="true" />

        <EditText
            android:id="@+id/txt_display"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_toLeftOf="@id/btn_del"
            android:layout_alignBaseline="@id/btn_del" />

    </RelativeLayout>

    <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:orientation="horizontal" >

        <Button
            android:id="@+id/btn_one"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_gravity="center"
            android:text="1" />

        <Button
            android:id="@+id/btn_two"
            android:layout_width="wrap_content"
```

```

        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:text="2" />

<Button
    android:id="@+id/btn_three"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center"
    android:text="3" />
</LinearLayout>

<LinearLayout
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center"
    android:orientation="horizontal" >

    <Button
        android:id="@+id/btn_four"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:text="4" />

    <Button
        android:id="@+id/btn_five"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:text="5" />

    <Button
        android:id="@+id/btn_six"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:text="6" />
</LinearLayout>

<LinearLayout
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center"
    android:orientation="horizontal" >

    <Button
        android:id="@+id/btn_seven"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:text="7" />

    <Button
        android:id="@+id/btn_eight"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"

```



```

        android:layout_gravity="center"
        android:text="8" />

<Button
    android:id="@+id/btn_nine"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center"
    android:text="9" />
</LinearLayout>

<LinearLayout
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center"
    android:orientation="horizontal" >

    <Button
        android:id="@+id/btn_star"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:text="*" />

    <Button
        android:id="@+id/btn_zero"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:text="0" />

    <Button
        android:id="@+id/btn_ash"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:text="#" />
</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:gravity="center"
    android:orientation="horizontal" >

    <Button
        android:id="@+id/btn_call"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:text="call" />

    <Button
        android:id="@+id/btn_save"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="save" />

```

```
</LinearLayout>

</LinearLayout>
```

Manifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.p8"
    android:versionCode="1"
    android:versionName="1.0" >

    <uses-sdk
        android:minSdkVersion="8"
        android:targetSdkVersion="18" />

    <uses-permission android:name="android.permission.CALL_PHONE"/>

    <application
        android:allowBackup="true"
        android:icon="@drawable/ic_launcher"
        android:label="@string/app_name"
        android:theme="@style/AppTheme" >
        <activity
            android:name="com.example.p8.MainActivity"
            android:label="@string/app_name" >
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

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

MainActivity.java

```
package com.example.p8;

import android.net.Uri;
import android.os.Bundle;
import android.provider.ContactsContract;
import android.app.Activity;
import android.content.Intent;
import android.view.Menu;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends Activity implements OnClickListener {

    EditText txtNumber;
```

Button

```
btnOne, btnTwo, btnThree, btnFour, btnFive, btnSix, btnSeven, btnEight, btnNine, btnZero, btnCall, btnSave, btnDel, btnStar, btnHash;
```

@Override

```
protected void onCreate(Bundle savedInstanceState) {  
    super.onCreate(savedInstanceState);  
    setContentView(R.layout.activity_main);  
  
    txtNumber= (EditText) findViewById(R.id.txt_display);  
  
    btnOne= (Button) findViewById(R.id.btn_one);  
    btnOne.setOnClickListener(this);  
  
    btnTwo= (Button) findViewById(R.id.btn_two);  
    btnTwo.setOnClickListener(this);  
  
    btnThree= (Button) findViewById(R.id.btn_three);  
    btnThree.setOnClickListener(this);  
  
    btnFour= (Button) findViewById(R.id.btn_four);  
    btnFour.setOnClickListener(this);  
  
    btnFive= (Button) findViewById(R.id.btn_five);  
    btnFive.setOnClickListener(this);  
  
    btnSix= (Button) findViewById(R.id.btn_six);  
    btnSix.setOnClickListener(this);  
  
    btnSeven= (Button) findViewById(R.id.btn_seven);  
    btnSeven.setOnClickListener(this);  
  
    btnEight= (Button) findViewById(R.id.btn_eight);  
    btnEight.setOnClickListener(this);  
  
    btnNine= (Button) findViewById(R.id.btn_nine);  
    btnNine.setOnClickListener(this);  
  
    btnZero= (Button) findViewById(R.id.btn_zero);  
    btnZero.setOnClickListener(this);  
  
    btnSave= (Button) findViewById(R.id.btn_save);  
    btnSave.setOnClickListener(this);  
  
    btnCall= (Button) findViewById(R.id.btn_call);  
    btnCall.setOnClickListener(this);  
  
    btnStar= (Button) findViewById(R.id.btn_star);  
    btnStar.setOnClickListener(this);  
  
    btnHash= (Button) findViewById(R.id.btn_ash);  
    btnHash.setOnClickListener(this);  
}
```

```

        btnDel=(Button)findViewById(R.id.btn_del);
        btnDel.setOnClickListener(this);

    }

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        // Inflate the menu; this adds items to the action bar if it is
present.
        getMenuInflater().inflate(R.menu.main, menu);
        return true;
    }

    @Override
    public void onClick(View v) {
        // TODO Auto-generated method stub

        if(v.equals(btnOne))
        {
            txtNumber.append("1");
        }
        else if(v.equals(btnTwo))
        {
            txtNumber.append("2");
        }
        else if(v.equals(btnThree))
        {
            txtNumber.append("3");
        }
        else if(v.equals(btnFour))
        {
            txtNumber.append("4");
        }
        else if(v.equals(btnFive))
        {
            txtNumber.append("5");
        }
        else if(v.equals(btnSix))
        {
            txtNumber.append("6");
        }
        else if(v.equals(btnSeven))
        {
            txtNumber.append("7");
        }
        else if(v.equals(btnEight))
        {
            txtNumber.append("8");
        }
        else if(v.equals(btnNine))
        {
            txtNumber.append("9");
        }
        else if(v.equals(btnZero))

```

```

        {
            txtNumber.append("0");
        }
        else if (v.equals(btnStar))
        {
            txtNumber.append("*");
        }
        else if (v.equals(btnHash))
        {
            txtNumber.append("#");
        }
        else if (v.equals(btnDel))
        {
            String num=txtNumber.getText().toString();
            if (num.length()>0)
            {
                num=num.substring(0,num.length()-1);
            }
            txtNumber.setText(num);
        }
        else if (v.equals(btnCall))
        {
            String num=txtNumber.getText().toString();
            Intent it=new Intent(Intent.ACTION_CALL);
            it.setData(Uri.parse("tel:"+num));
            startActivity(it);
        }
        else if (v.equals(btnSave))
        {
            String num=txtNumber.getText().toString();
            Intent intent = new Intent(Intent.ACTION_INSERT,
ContactsContract.Contacts.CONTENT_URI);
            intent.putExtra(ContactsContract.Intents.Insert.PHONE, num);
            startActivity(intent);
        }
    }

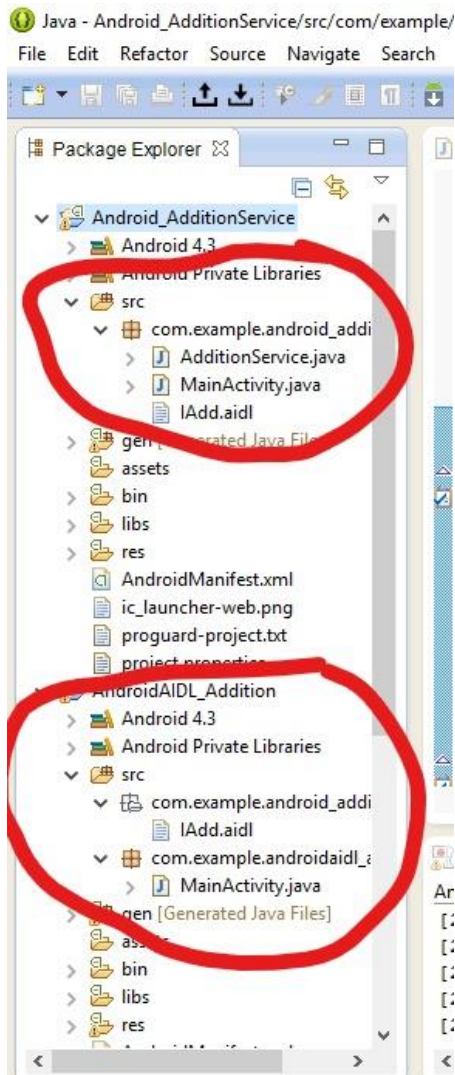
}

}

```

7th program alternate

Not approved by any teacher, but it works.



Part 1

Manifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.android_additionservice"
    android:versionCode="1"
    android:versionName="1.0" >

    <uses-sdk
        android:minSdkVersion="8"
        android:targetSdkVersion="18" />
```

```

<application
    android:allowBackup="true"
    android:icon="@drawable/ic_launcher"
    android:label="@string/app_name"
    android:theme="@style/AppTheme" >
    <activity
        android:name="com.example.android_additionservice.MainActivity"
        android:label="@string/app_name" >
        <intent-filter>
            <action android:name="android.intent.action.MAIN" />

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

    <service
        android:name=".AdditionService"
        android:process=":remote" >
        <intent-filter>
            <action android:name="service.Calculator" />
        </intent-filter>
    </service>
</application>

</manifest>

```

AdditionService.java

```

package com.example.android_additionservice;

import android.app.Service;
import android.content.Intent;
import android.os.IBinder;
import android.os.RemoteException;

import com.example.android_additionservice.IAdd;

public class AdditionService extends Service {

    public IBinder onBind(Intent intent) {
        // TODO Auto-generated method stub
        return mBinder;
    }

    /**
     * IAdd definition is below
     */
    private final IAdd.Stub mBinder = new IAdd.Stub() {

        @Override
        public int add(int num1, int num2) throws RemoteException {
            // TODO Auto-generated method stub
            return (num1 + num2);
        }

        @Override

```

```

        public int sub(int num1, int num2) throws RemoteException {
            // TODO Auto-generated method stub
            return (num1 - num2);
        }

        @Override
        public int mul(int num1, int num2) throws RemoteException {
            // TODO Auto-generated method stub
            return (num1 * num2);
        }
    };
}

```

.aidl file

```

package com.example.android_additionservice;

interface IAdd
{
    int add(int num1, int num2);
    int sub(int num1, int num2);
    int mul(int num1, int num2);
}

```

Part 2

The same .aidl file

MainActivity.java

```

package com.example.androidaidl_addition;

import com.example.android_additionservice.IAdd;
import com.example.androidaidl_addition.R;

import android.os.Bundle;
import android.os.IBinder;
import android.os.RemoteException;
import android.app.Activity;
import android.app.Service;
import android.content.ComponentName;
import android.content.Intent;
import android.content.ServiceConnection;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends Activity implements OnClickListener {

```



```

EditText etValue1, etValue2;
Button bAdd,bsub,bmul;
TextView mSum;
protected IAdd AddService;
ServiceConnection AddServiceConnection;

/** Called when the activity is first created. */

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

    etValue1 = (EditText) findViewById(R.id.value1);
    etValue2 = (EditText) findViewById(R.id.value2);
    mSum = (TextView) findViewById(R.id.sum);
    bAdd = (Button) findViewById(R.id.add);
    bAdd.setOnClickListener(this);
    bsub = (Button) findViewById(R.id.sub);
    bsub.setOnClickListener(this);
    bmul = (Button) findViewById(R.id.mul);
    bmul.setOnClickListener(this);

    initConnection();
}

void initConnection() {
    AddServiceConnection = new ServiceConnection() {

        @Override
        public void onServiceDisconnected(ComponentName name) {
            // TODO Auto-generated method stub
            AddService = null;
            Toast.makeText(getApplicationContext(), "Service
Disconnected",
                                Toast.LENGTH_SHORT).show();
        }

        @Override
        public void onServiceConnected(ComponentName name, IBinder
service) {
            // TODO Auto-generated method stub
            AddService = IAdd.Stub.asInterface((IBinder)
service);
            Toast.makeText(getApplicationContext(),
                                "Addition Service Connected",
                                Toast.LENGTH_SHORT)
                                .show();
        }
    };

    if (AddService == null) {
        Intent it = new Intent();
        it.setAction("service.Calculator");
        // binding to remote service
    }
}

```

```

        bindService(it, AddServiceConnection,
Service.BIND_AUTO_CREATE);
    }

    }

    public void onClick(View v) {
        // TODO Auto-generated method stub
        if(v.equals(bAdd)) {
            int num1 = Integer.parseInt(etValue1.getText().toString());
            int num2 = Integer.parseInt(etValue2.getText().toString());

            try {
                mSum.setText("Result:" + AddService.add(num1, num2));
            } catch (RemoteException e) {
                // TODO Auto-generated catch block
                e.printStackTrace();
            }
        }
        if(v.equals(bsub)) {
            int num1 = Integer.parseInt(etValue1.getText().toString());
            int num2 = Integer.parseInt(etValue2.getText().toString());

            try {
                mSum.setText("Result:" + AddService.sub(num1, num2));
            } catch (RemoteException e) {
                // TODO Auto-generated catch block
                e.printStackTrace();
            }
        }
        if(v.equals(bmul)) {
            int num1 = Integer.parseInt(etValue1.getText().toString());
            int num2 = Integer.parseInt(etValue2.getText().toString());

            try {
                mSum.setText("Result:" + AddService.mul(num1, num2));
            } catch (RemoteException e) {
                // TODO Auto-generated catch block
                e.printStackTrace();
            }
        }
    }
}

```

Updated 2nd program

Don't know if this even works (#facepalm)

Write a program to create an activity with a text box and three buttons (save, open and create) open must allow to browse the text file from sdcard and must display the contents of the file on textbox, save button must save the contents of text box to file, create button must allow file user to create a new file and save the entered contents of the textbox.

Activity_main.xml

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:gravity="center">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:gravity="center">

        <Button android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Create new file"
            android:id="@+id/btn_create"
            android:layout_gravity="left"/>

        <Button android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Open"
            android:id="@+id/btn_open"
            android:layout_gravity="right"/>

    </LinearLayout>

    <TextView
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:text="File:"
        android:id="@+id/lbl_file" />

    <EditText android:layout_width="match_parent"
        android:layout_height="200dp"
        android:id="@+id/txt_content"/>

    <Button android:layout_width="wrap_content"
```

```

        android:layout_height="wrap_content"
        android:text="Save"
        android:layout_gravity="center"
        android:id="@+id/btn_save"/>

</LinearLayout>

```

Dialog_layout.xml

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical" >

    <TextView    android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Enter File Name"/>

        <EditText    android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:id="@+id/txt_filename"/>

</LinearLayout>

```

Manifest.xml

```

<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.p2"
    android:versionCode="1"
    android:versionName="1.0" >

    <uses-sdk
        android:minSdkVersion="8"
        android:targetSdkVersion="18" />

    <uses-permission
        android:name="android.permission.WRITE_EXTERNAL_STORAGE"/>
    <uses-permission
        android:name="android.permission.READ_EXTERNAL_STORAGE"/>

    <application
        android:allowBackup="true"
        android:icon="@drawable/ic_launcher"
        android:label="@string/app_name"
        android:theme="@style/AppTheme" >
        <activity
            android:name="com.example.p2.MainActivity"
            android:label="@string/app_name" >
            <intent-filter>

```

```

        <action android:name="android.intent.action.MAIN" />

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

</manifest>

```

MainActivity.java

```

package com.example.p2;

import java.io.BufferedReader;
import java.io.File;
import java.io.FileInputStream;
import java.io.FileOutputStream;
import java.io.IOException;
import java.io.InputStreamReader;
import java.io.OutputStreamWriter;

import android.os.Bundle;
import android.os.Environment;
import android.app.Activity;
import android.app.AlertDialog;
import android.content.DialogInterface;
import android.content.Intent;
import android.view.Menu;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends Activity implements OnClickListener {

    TextView lblFile;
    EditText txtContent;
    Button btnCreate, btnSave, btnOpen;

    int FILE_CHOOSE_REQUEST=1;

    String filepath;

    String filename;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        lblFile=(TextView) findViewById(R.id.lbl_file);

        txtContent=(EditText) findViewById(R.id.txt_content);
    }

```

```

        btnCreate=(Button)findViewById(R.id.btn_create);
        btnCreate.setOnClickListener(this);

        btnSave=(Button)findViewById(R.id.btn_save);
        btnSave.setOnClickListener(this);

        btnOpen=(Button)findViewById(R.id.btn_open);
        btnOpen.setOnClickListener(this);

    }

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        // Inflate the menu; this adds items to the action bar if it is
        present.
        getMenuInflater().inflate(R.menu.main, menu);
        return true;
    }

    public void onActivityResult(int requestCode,int resultCode, Intent data)
    {
        super.onActivityResult(requestCode, resultCode, data);

        if(resultCode==RESULT_OK)
        {
            filepath=data.getData().getPath();
            filename=filepath.substring(filepath.lastIndexOf("/")+1);
            filepath=filepath.substring(0,filepath.lastIndexOf("/"));

            readFromFile(filepath,filename);
            lblFile.setText(filepath+"/"+filename);
        }
        else
        {
            Toast.makeText(this,"Wrong Choice of File",
Toast.LENGTH_LONG).show();
        }

    }

    public void writeToFile(String path,String filename)
    {
        try {
            FileOutputStream fileout=new FileOutputStream(new
File(path+"/"+filename));
            OutputStreamWriter outputWriter=new
OutputStreamWriter(fileout);
            outputWriter.write(txtContent.getText().toString());
            outputWriter.close();

            //display file saved message

```

```

        Toast.makeText(getBaseContext(), "File Saved
successfully!",
        Toast.LENGTH_SHORT).show();

    } catch (Exception e) {
        Toast.makeText(getBaseContext(), e.getMessage(),
            Toast.LENGTH_SHORT).show();
    }
}

public void readFromFile(String path,String filename)
{
    try {
        FileInputStream fileIn=new
FileInputStream(path+"/"+filename);
        InputStreamReader inputReader= new
InputStreamReader(fileIn);

        BufferedReader br=new BufferedReader(inputReader);
        String data=br.readLine();
        while(data!=null)
        {
            txtContent.append(data);
            data=br.readLine();
        }
        br.close();

    } catch (Exception e) {
        Toast.makeText(getBaseContext(),e.getMessage(),
            Toast.LENGTH_SHORT).show();
    }
}

public void onShowCreateDialog()
{
    AlertDialog.Builder builder=new AlertDialog.Builder(this);
    final View
dialogView=getLayoutInflater().inflate(R.layout.dialog_layout, null);
    builder.setView(dialogView);
    builder.setPositiveButton("Ok", new DialogInterface.OnClickListener() {

        @Override
        public void onClick(DialogInterface arg0, int arg1) {
            // TODO Auto-generated method stub
            EditText
txtFilename=(EditText)dialogView.findViewById(R.id.txt_filename);

            filepath=Environment.getExternalStorageDirectory().getAbsolutePath();
            filename=txtFilename.getText().toString();
            File f=new File(filepath+"/"+filename);
            try {
                f.createNewFile();
            } catch (IOException e) {
                // TODO Auto-generated catch block

```

```

        Toast.makeText(getBaseContext(),
            ""+e.getLocalizedMessage(), Toast.LENGTH_LONG).show();
    }

    lblFile.setText(filepath+"/"+filename);

    }

    });
    builder.setNegativeButton("Cancel", null);
    AlertDialog dialog=builder.create();
    dialog.show();
}

@Override
public void onClick(View v) {
    // TODO Auto-generated method stub

    if(v.equals(btnOpen))
    {
        Intent it=new Intent(Intent.ACTION_GET_CONTENT);
        //it.setType("*.");
        it.setType("file/*");
        startActivityForResult(it, 0);
    }
    else if(v.equals(btnCreate))
    {
        onShowCreateDialog();
    }
    else if(v.equals(btnSave))
    {
        writeFile(filepath, filename);
    }

}

}

```