

Android Practical (209) – Assignment-3

Question-1

1. Write an android application to demonstrate read and write on internal files.

```
-----AndroidManifest.xml-----

<?xml version="1.0" encoding="utf-8"?>

<manifest xmlns:android="http://schemas.android.com/apk/res/android"

    package="com.example.question_1">

    <application

        android:allowBackup="true"

        android:icon="@mipmap/ic_launcher"

        android:label="@string/app_name"

        android:roundIcon="@mipmap/ic_launcher_round"

        android:supportRtl="true"

        android:theme="@style/Theme.Question1">

        <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>
```

===== java files=====

-----MainActivity.java-----

```
package com.example.question_1;
```

```
import androidx.appcompat.app.AppCompatActivity;
```

```
import android.os.Bundle;
```

```
import android.view.View;
```

```
import android.widget.EditText;
```

```
import android.widget.TextView;
```

```
import android.widget.Toast;
```

```
import java.io.FileInputStream;
```

```
import java.io.FileOutputStream;
```

```
import java.io.IOException;
```

```
import java.nio.charset.StandardCharsets;
```

```
public class MainActivity extends AppCompatActivity {
```

```
    EditText edtInput;
```

```
    TextView txtOutput;
```

```
    @Override
```

```
    protected void onCreate(Bundle savedInstanceState) {
```

```
        super.onCreate(savedInstanceState);
```

```
        setContentView(R.layout.activity_main);
```

```
        edtInput = findViewById(R.id.edtInput);
```

```
        txtOutput = findViewById(R.id.txtOutput);
```

```
    }
```

```
    public void btnWriteClick(View view) {
```

```
        FileOutputStream fout = null;
```

```
        try {
```

```
fout = openFileOutput("chandani.txt",MODE_APPEND);
```

```
String text = edtInput.getText().toString()+"\n";
```

```
byte[] btext = text.getBytes();
```

```
fout.write(btext);
```

```
fout.close();
```

```
Toast.makeText(this, "Store Successfully", Toast.LENGTH_SHORT).show();
```

```
} catch (IOException e) {
```

```
    e.printStackTrace();
```

```
}
```

```
}
```

```
public void btnReadClick(View view) {
```

```
    txtOutput.setText("");
```

```
    FileInputStream fin = null;
```

```
    try {
```

```
        fin = openFileInput("chandani.txt");
```

```
        byte[] btext = new byte[1024];
```

```
        fin.read(btext);
```

```
        String text = new String(btext);
```

```
        txtOutput.append(text);
```

```
        fin.close();
```

```
        Toast.makeText(this, "Restore Successfully", Toast.LENGTH_SHORT).show();
```

```
    } catch (IOException e) {
```

```
        e.printStackTrace();
```

```
    }
```

```
}
```

```
}
```

=====Layout Files=====

-----activity_main.xml-----

```
<?xml version="1.0" encoding="utf-8"?>
```

```
<LinearLayout 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"
```

```
    android:orientation="vertical">
```

```
    <TextView
```

```
        android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
```

```
        android:text="Internal Files"
```

```
        android:textSize="30sp"
```

```
        android:layout_gravity="center"
```

```
        android:textAlignment="center"
```

```
        android:textColor="#24248f"
```

```
        android:textStyle="bold"
```

```
        android:layout_margin="5dp"/>
```

```
    <TextView
```

```
        android:layout_width="match_parent"
```

```
        android:layout_height="wrap_content"
```

```
        android:textSize="18sp"
```

```
        android:textColor="@color/black"
```

```
        android:text="This will Show Read and Write on Internal Files"
```

```
        android:layout_margin="5dp" />
```

```
    <EditText
```

```
        android:id="@+id/edtInput"
```

```
        android:layout_width="match_parent"
```

```
        android:layout_height="wrap_content"/>
```

```
<Button
    android:id="@+id/btnWrite"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Write"
    android:layout_margin="5sp"
    android:onClick="btnWriteClick"/>
```

```
<Button
    android:id="@+id/btnRead"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Read"
    android:layout_margin="5sp"
    android:onClick="btnReadClick"/>
```

```
<TextView
    android:id="@+id/txtOutput"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:textSize="18sp"
    android:textColor="@color/black"
    android:text=""
    android:layout_margin="5dp" />
```

```
</LinearLayout>
```

Question-2

2. Write an android application to list the contact name and phone number form the contacts of your phone.

=====AndroisManifest.xml=====

```
<?xml version="1.0" encoding="utf-8"?>
```

```
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
```

```
    package="com.example.question_2">
```

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

```
    <application
```

```
        android:allowBackup="true"
```

```
        android:icon="@mipmap/ic_launcher"
```

```
        android:label="@string/app_name"
```

```
        android:roundIcon="@mipmap/ic_launcher_round"
```

```
        android:supportsRtl="true"
```

```
        android:theme="@style/Theme.Question2">
```

```
        <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>
```

=====java files=====

-----MainActivity.java-----

```
package com.example.question_2;
```

```
import androidx.appcompat.app.AppCompatActivity;
```

```
import android.content.ContentResolver;
```

```
import android.database.Cursor;
```

```
import android.net.Uri;
```

```
import android.os.Bundle;
```

```
import android.provider.ContactsContract;
```

```
import android.view.View;
```

```
import android.widget.ListView;
```

```
import android.widget.SimpleCursorAdapter;
```

```
import android.widget.TextView;
```

```
public class MainActivity extends AppCompatActivity {
```

```
    ListView lstContact;
```

```
    TextView txtContact;
```

```
    @Override
```

```
    protected void onCreate(Bundle savedInstanceState) {
```

```
        super.onCreate(savedInstanceState);
```

```
        setContentView(R.layout.activity_main);
```

```
        lstContact = findViewById(R.id.lstContact);
```

```
        txtContact = findViewById(R.id.txtContact);
```

```
    }
```

```
    public void btnShowClick(View v){
```

```
        //Uri
```

```
        Uri contactURI = ContactsContract.Contacts.CONTENT_URI;
```

```
        Uri phoneURI = ContactsContract.CommonDataKinds.Phone.CONTENT_URI;
```

```
Uri emailURI = ContactsContract.CommonDataKinds.Email.CONTENT_URI;
```

```
String ID = ContactsContract.Contacts._ID;
```

```
String DISPLAY_NAME = ContactsContract.Contacts.DISPLAY_NAME;
```

```
String PHONE_ID = ContactsContract.CommonDataKinds.Phone.CONTACT_ID;
```

```
String PHONE_NUMBER = ContactsContract.CommonDataKinds.Phone.NUMBER;
```

```
String EMAIL_ID = ContactsContract.CommonDataKinds.Email.CONTACT_ID;
```

```
String EMAIL_ADDRESS = ContactsContract.CommonDataKinds.Email.ADDRESS;
```

```
ContentResolver cr = getContentResolver();
```

```
Cursor cursor = cr.query(contactURI,null,null,null,null);
```

```
txtContact.setText("");
```

```
while(cursor.moveToNext()){
```

```
    int indexID = cursor.getColumnIndex(ID);
```

```
    int indexDisplayName = cursor.getColumnIndex(DISPLAY_NAME);
```

```
    String contactID = cursor.getString(indexID);
```

```
    String contactDisplayName = cursor.getString(indexDisplayName);
```

```
    txtContact.append("\n-----");
```

```
    txtContact.append("\nId : "+ contactID + "Name : " + contactDisplayName);
```

```
//Phone Number Start
```

```
String whereClausePhone = PHONE_ID + "=?";
```

```
String whereArgsPhone[] = new String[]{contactID};
```

```
Cursor phoneCursor = cr.query(phoneURI,null,whereClausePhone,whereArgsPhone,null);
```

```
while(phoneCursor.moveToNext()){
```



```

        int indexPhoneNumber = phoneCursor.getColumnIndex(PHONE_NUMBER);

        String phoneNumber = phoneCursor.getString(indexPhoneNumber);

        txtContact.append("\nPhone : "+phoneNumber);
    }

    //Phone Number End

    //Email Address Start

    String whereClauseEmail = EMAIL_ID + "=?";
    String whereArgsEmail[] = new String[]{contactID};

    Cursor emailCursor = cr.query(emailURI,null,whereClauseEmail,whereArgsEmail,null);

    while(emailCursor.moveToNext()){
        int indexEmail = emailCursor.getColumnIndex(EMAIL_ADDRESS);
        String emailAddress = emailCursor.getString(indexEmail);

        txtContact.append("\nEmail : "+emailAddress);
    }

    //Email Address End

}

}

// public void btnShowClickOld(View view) {
//     Cursor c =
getContentResolver().query(ContactsContract.CommonDataKinds.Phone.CONTENT_URI,null,null,null,null);
//     startManagingCursor(c);
//
//     String[] from =
{ContactsContract.CommonDataKinds.Phone.DISPLAY_NAME,ContactsContract.CommonDataKinds.Phone.NUMBER,
ContactsContract.CommonDataKinds.Phone._ID};
//

```

```
//    int[] to = {R.id.txtName,R.id.txtNumber};  
//  
//    SimpleCursorAdapter sca = new SimpleCursorAdapter(this,R.layout.list_contact,c,from,to);  
//    lstContact.setAdapter(sca);  
//    lstContact.setChoiceMode(ListView.CHOICE_MODE_MULTIPLE);  
// }  
  
}
```

=====layout files=====

-----activity_main.xml-----

```
<?xml version="1.0" encoding="utf-8"?>
```

```
<LinearLayout 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"
```

```
    android:orientation="vertical">
```

```
    <TextView
```

```
        android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
```

```
        android:text="Showing Contacts"
```

```
        android:textSize="30sp"
```

```
        android:layout_gravity="center"
```

```
        android:textAlignment="center"
```

```
        android:textColor="#24248f"
```

```
        android:textStyle="bold"
```

```
        android:layout_margin="5dp"/>
```

```
    <TextView
```

```
        android:layout_width="match_parent"
```

```
        android:layout_height="wrap_content"
```

```
        android:textSize="18sp"
```

```
        android:textColor="@color/black"
```

```
        android:text="This will Show all the contacts from your Mobile"
```

```
        android:layout_margin="5dp" />
```

```
    <Button
```

```
        android:id="@+id/btnShow"
```

```
        android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
```

```
        android:text="Show Contacts"
```

```
android:layout_margin="5sp"
android:onClick="btnShowClick"/>
```

```
<TextView
```

```
    android:id="@+id/txtContact"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:textSize="18sp"
    android:textColor="@color/black"
    android:text=""
    android:layout_margin="5dp" />
```

```
<ListView
```

```
    android:id="@+id/lstContact"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"/>
```

```
</LinearLayout>
```

```
<?xml version="1.0" encoding="utf-8"?>
```

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
```

```
    android:orientation="vertical"
```

```
    android:layout_width="match_parent"
```

```
    android:layout_height="match_parent">
```

```
    <TextView
```

```
        android:id="@+id/txtName"
```

```
        android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
```

```
        android:layout_margin="5dp"/>
```

```
    <TextView
```

```
        android:id="@+id/txtNumber"
```

```
        android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
```

```
        android:layout_margin="5dp"/>
```

```
</LinearLayout>
```

Question-3

3. Write an android application to play audio file from android Service using MediaPlayer class.

=====AndroidManifest.xml=====

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.question_3">

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Question3">

        <service
            android:name=".MyService2"
            android:enabled="true"
            android:exported="true"></service>

        <service
            android:name=".MyService"
            android:enabled="true"
            android:exported="true" />

        <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>
```

=====java files=====

=====MainActivity.java=====

```
package com.example.question_3;
```

```
import androidx.appcompat.app.AppCompatActivity;
```

```
import android.content.Intent;
```

```
import android.os.Bundle;
```

```
import android.view.View;
```

```
public class MainActivity extends AppCompatActivity {
```

```
    @Override
```

```
    protected void onCreate(Bundle savedInstanceState) {
```

```
        super.onCreate(savedInstanceState);
```

```
        setContentView(R.layout.activity_main);
```

```
    }
```

```
    /*
```

```
    public void onStartService(View v){
```

```
        Intent i= new Intent(this,MyService.class);
```

```
        startService(i);
```

```
    }
```

```
    public void onStopService(View v){
```

```
        Intent i = new Intent(this,MyService.class);
```

```
        stopService(i);
```

```
    }
```

```
    */
```

```
    public void btnStartGClick(View view) {
```

```
        Intent i = new Intent(this,MyService2.class);
```

```
        stopService(i);
```

```
        Intent i2= new Intent(this,MyService.class);
```

```
        startService(i2);
```

```
}
```

```
public void btnStopGClick(View view) {  
    Intent i = new Intent(this,MyService.class);  
    stopService(i);  
}
```

```
public void btnStartGSClick(View view) {  
    Intent i = new Intent(this,MyService2.class);  
    stopService(i);  
    Intent i2= new Intent(this,MyService2.class);  
    startService(i2);  
}
```

```
public void btnStopGSClick(View view) {  
    Intent i = new Intent(this,MyService2.class);  
    stopService(i);  
}  
}
```


=====MyService.java=====

```
package com.example.question_3;
```

```
import android.app.Service;
```

```
import android.content.Intent;
```

```
import android.media.MediaPlayer;
```

```
import android.os.IBinder;
```

```
public class MyService extends Service {
```

```
    public MyService() {
```

```
    }
```

```
    @Override
```

```
    public IBinder onBind(Intent intent) {
```

```
        // TODO: Return the communication channel to the service.
```

```
        throw new UnsupportedOperationException("Not yet implemented");
```

```
    }
```

```
    MediaPlayer mp = null;
```

```
    @Override
```

```
    public void onCreate() {
```

```
        super.onCreate();
```

```
        mp = MediaPlayer.create(this,R.raw.gayatri);
```

```
        //mp.setLooping(true);
```

```
    }
```

```
    @Override
```

```
    public int onStartCommand(Intent intent, int flags, int startId) {
```

```
        int returnvalue = super.onStartCommand(intent, flags, startId);
```

```
        mp.start();
```

```
        //Stopsself();
```

```
        return returnvalue;
```

```
}
```

```
@Override
```

```
public void onDestroy() {
```

```
    super.onDestroy();
```

```
    mp.stop();
```

```
}
```

```
}
```

=====MyService2.java=====

```
package com.example.question_3;
```

```
import android.app.Service;
```

```
import android.content.Intent;
```

```
import android.media.MediaPlayer;
```

```
import android.os.IBinder;
```

```
public class MyService2 extends Service {
```

```
    public MyService2() {
```

```
    }
```

```
    MediaPlayer mp = null;
```

```
    @Override
```

```
    public IBinder onBind(Intent intent) {
```

```
        // TODO: Return the communication channel to the service.
```

```
        throw new UnsupportedOperationException("Not yet implemented");
```

```
    }
```

```
    @Override
```

```
    public void onCreate() {
```

```
        super.onCreate();
```

```
        mp = MediaPlayer.create(this,R.raw.gayatri_stavan);
```

```
        //mp.setLooping(true);
```

```
    }
```

```
    @Override
```

```
    public int onStartCommand(Intent intent, int flags, int startId) {
```

```
        int returnvalue = super.onStartCommand(intent, flags, startId);
```

```
        mp.start();
```

```
        //Stopself();
```

```
        return returnvalue;
```

```
    }
```

@Override

public void onDestroy() {

super.onDestroy();

mp.stop();

}

}

=====Layout files=====

=====activity_main.xml=====

```
<?xml version="1.0" encoding="utf-8"?>
```

```
<LinearLayout 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"
```

```
    android:orientation="vertical">
```

```
    <TextView
```

```
        android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
```

```
        android:text="Play Audio file"
```

```
        android:textSize="30sp"
```

```
        android:layout_gravity="center"
```

```
        android:textAlignment="center"
```

```
        android:textColor="#24248f"
```

```
        android:textStyle="bold"
```

```
        android:layout_margin="5dp"/>
```

```
    <TextView
```

```
        android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
```

```
        android:text="Gayatri Mantra"
```

```
        android:textSize="20sp"
```

```
        android:layout_gravity="center"
```

```
        android:textAlignment="center"
```

```
        android:textColor="#24248f"
```

```
        android:textStyle="bold"
```

```
        android:layout_margin="5dp" />
```

```
    <TextView
```

```
        android:layout_width="match_parent"
```

```
        android:layout_height="wrap_content"

        android:textSize="18sp"

        android:textColor="@color/black"

        android:text="Use to Start and Stop Gayatri Mantra Audio File in Your Android Mobile"

        android:layout_margin="5dp" />
<LinearLayout

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:orientation="horizontal"

    android:gravity="center">

    <Button

        android:id="@+id/btnStartG"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="Start"

        android:layout_margin="5sp"

        android:onClick="btnStartGClick"/>

    <Button

        android:id="@+id/btnStopG"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="Stop"

        android:layout_margin="5sp"

        android:onClick="btnStopGClick"/>

</LinearLayout>

<TextView

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:text="Gayatri Stavan Mantra"

    android:textSize="20sp"

    android:layout_gravity="center"

    android:textAlignment="center"

    android:textColor="#24248f"

    android:textStyle="bold"
```

```
    android:layout_margin="5dp" />
```

```
<TextView
```

```
    android:layout_width="match_parent"
```

```
    android:layout_height="wrap_content"
```

```
    android:textSize="18sp"
```

```
    android:textColor="@color/black"
```

```
    android:text="Use to Start and Stop Gayatri Satavan Mantra Audio File in Your Android Mobile"
```

```
    android:layout_margin="5dp" />
```

```
<LinearLayout
```

```
    android:layout_width="match_parent"
```

```
    android:layout_height="wrap_content"
```

```
    android:orientation="horizontal"
```

```
    android:gravity="center">
```

```
<Button
```

```
    android:id="@+id/btnStart"
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
```

```
    android:text="Start"
```

```
    android:layout_margin="5sp"
```

```
    android:onClick="btnStartGSClick"/>
```

```
<Button
```

```
    android:id="@+id/btnStop"
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
```

```
    android:text="Stop"
```

```
    android:layout_margin="5sp"
```

```
    android:onClick="btnStopGSClick"/>
```

```
</LinearLayout>
```

```
</LinearLayout>
```

*****Raw Files*****

1. gayatri.mp3
2. gayatri_stavan.mp3