

Aim :

Write an application on Multimedia for Playing Audio & Video in Android Studio.

Theory :

MediaPlayer : A `MediaPlayer` can consume valuable system resources. Therefore, you should always take extra precautions to make sure you are not hanging on to a `MediaPlayer` instance longer than necessary. When you are done with it, you should always call `release()` to make sure any system resources allocated to it are properly released. For example, if you are using a `MediaPlayer` and your activity receives a call to `onStop()`, you must release the `MediaPlayer`, because it makes little sense to hold on to it while your activity is not interacting with the user (unless you are playing media in the background, which is discussed in the next section). When your activity is resumed or restarted, of course, you need to create a new `MediaPlayer` and prepare it again before resuming playback.

setDataSource : It transfers a `MediaPlayer` object in the *Idle* state to the *Initialized* state.

An `IllegalStateException` is thrown if `setDataSource()` is called in any other state.

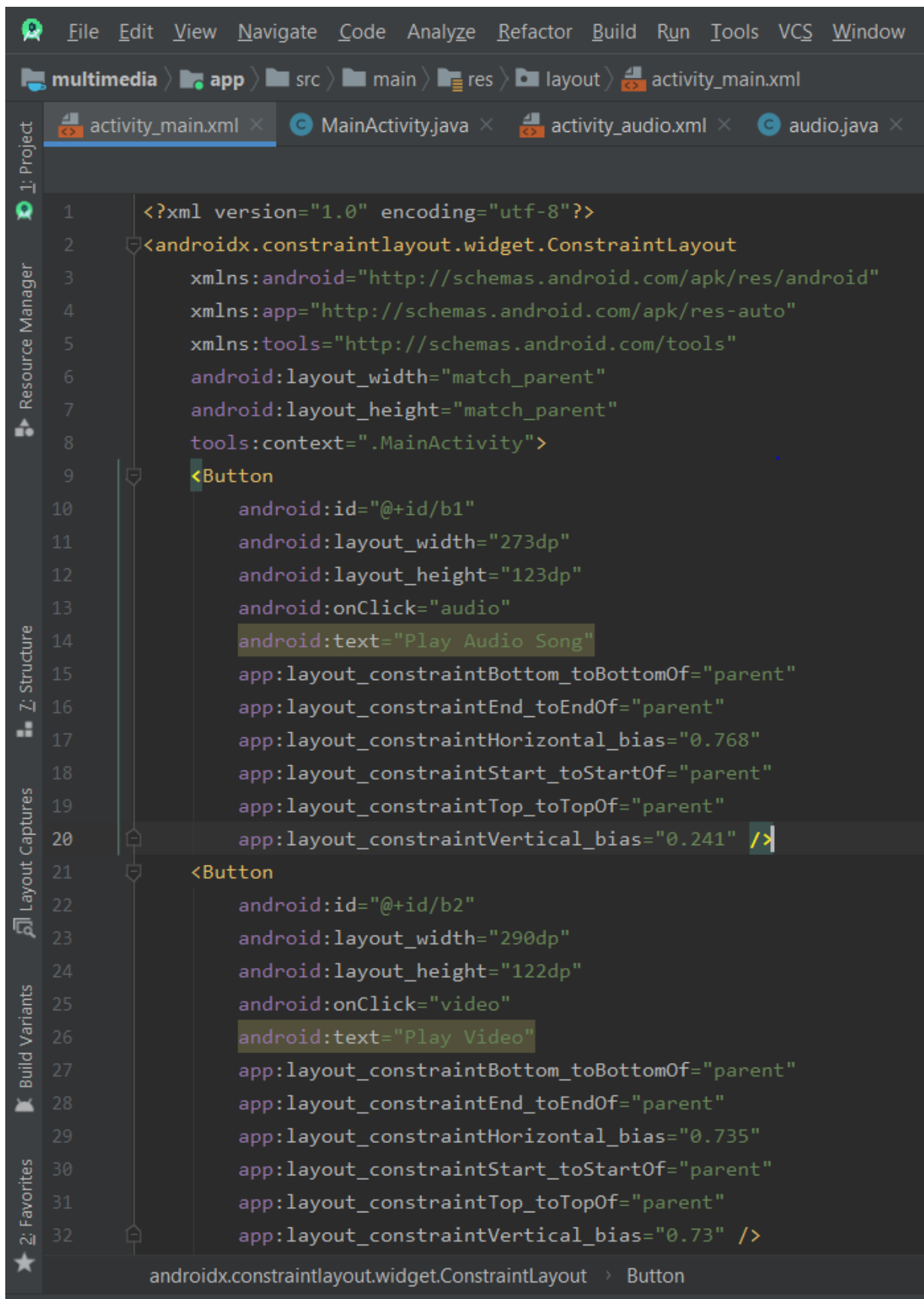
It is good programming practice to always look out for `IllegalArgumentException` and `IOException` that may be thrown from the overloaded `setDataSource` methods.

Algorithm :

- Step 1 - Setting up the Project. ...
- Step 2– Create the `MediaPlayer` Service. ...
- Step 3 – Constructing the `MediaPlayer`. ...
- Step 4 – Handling Audio Focus. ...
- Step 5 – Service Lifecycle Methods. ...
- Step 6 – Binding the Audio Player. ...
- Step 7 – Activity Lifecycle Methods. ...
- Step 8 --Extras– Loading Local Audio Files.
- Step 9 –By using Uri Method create location of video player.
- Step 10 –use Intent method to open the video player .

Code :

Output :



```
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help multimed
multimedia > app > src > main > java > com > example > multimedia > MainActivity
activity_main.xml x MainActivity.java x activity_audio.xml x audio.java x activity_vide
1 package com.example.multimedia;
2
3 import ...
10
11 public class MainActivity extends AppCompatActivity {
12     Button song,movies;
13     private static final String LOG_TAG=MainActivity.class.getSimpleName();
14
15     @Override
16     protected void onCreate(Bundle savedInstanceState) {
17         super.onCreate(savedInstanceState);
18         setContentView(R.layout.activity_main);
19         song = (Button) findViewById(R.id.b1);
20         movies= (Button) findViewById(R.id.b1);
21     }
22     public void audio(View view) {
23         Log.d(LOG_TAG, msg: "clicked!!!!");
24         Intent i=new Intent( packageContext: this,audio.class);
25         startActivity(i);
26     }
27     public void video(View view) {
28         Log.d(LOG_TAG, msg: "clicked!!!!");
29         Intent i=new Intent( packageContext: this,video.class);
30         startActivity(i);
31     }
32 }
33 |
```

```
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multimedia > app > src > main > res > layout > activity_audio.xml
activity_main.xml x MainActivity.java x activity_audio.xml x audio.java x
1: Project
1: Resource Manager
2: Structure
Layout Captures
Build Variants
2: Favorites

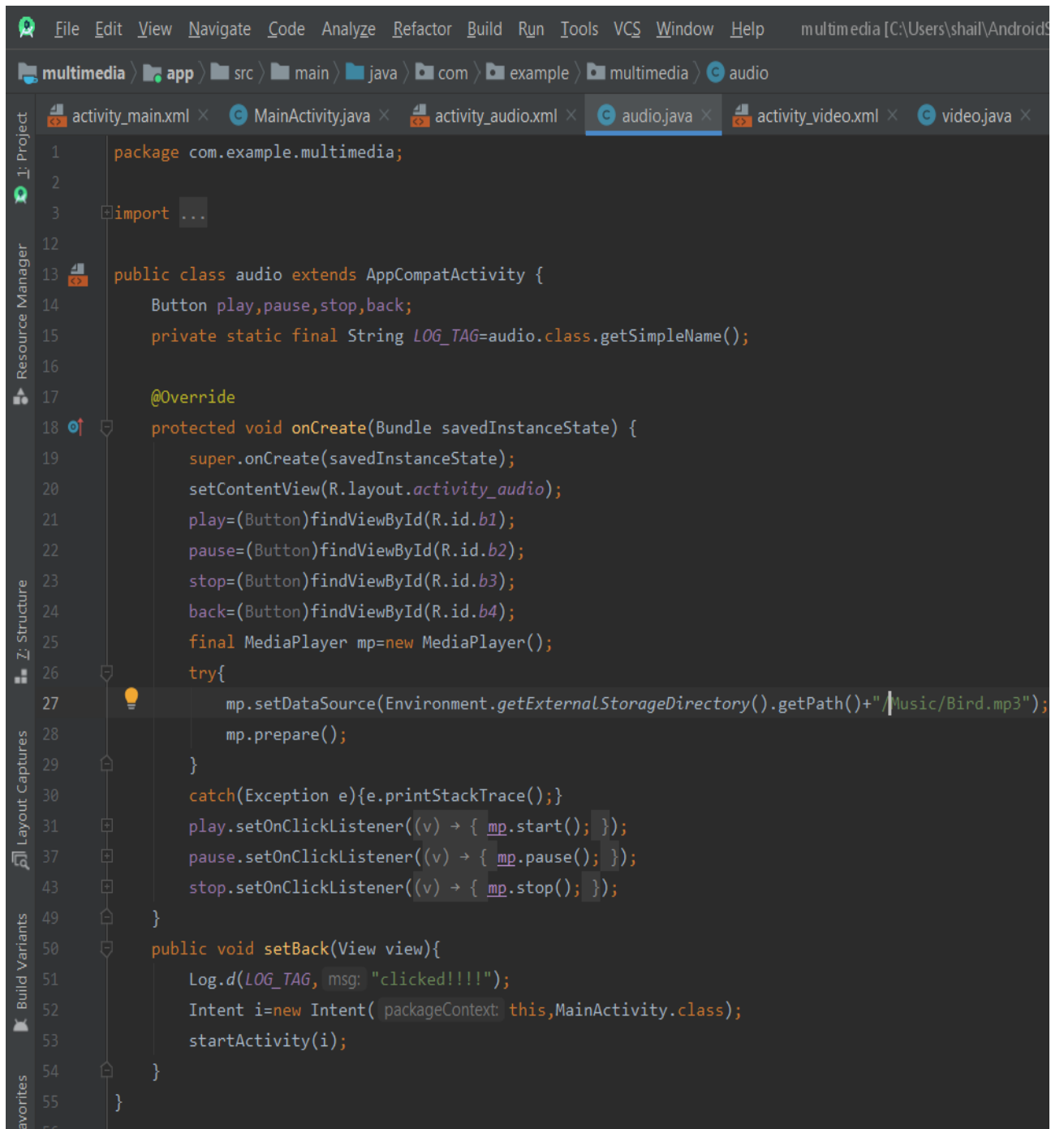
1 <?xml version="1.0" encoding="utf-8"?>
2 <androidx.constraintlayout.widget.ConstraintLayout
3     xmlns:android="http://schemas.android.com/apk/res/android"
4     xmlns:app="http://schemas.android.com/apk/res-auto"
5     xmlns:tools="http://schemas.android.com/tools"
6     android:layout_width="match_parent"
7     android:layout_height="match_parent"
8     tools:context=".audio">
9
10    <TextView
11        android:id="@+id/t1"
12        android:layout_width="209dp"
13        android:layout_height="68dp"
14        android:text="Audio song play --- Coca Cola song !!!"
15        app:layout_constraintBottom_toBottomOf="parent"
16        app:layout_constraintEnd_toEndOf="parent"
17        app:layout_constraintHorizontal_bias="0.433"
18        app:layout_constraintStart_toStartOf="parent"
19        app:layout_constraintTop_toTopOf="parent"
20        app:layout_constraintVertical_bias="0.091" />
21
22    <Button
23        android:id="@+id/b4"
24        android:layout_width="113dp"
25        android:layout_height="85dp"
26        android:text="back"
27        android:onClick="setBack"
28        app:layout_constraintBottom_toBottomOf="parent"
29        app:layout_constraintEnd_toEndOf="parent"
30        app:layout_constraintHorizontal_bias="0.543"
31        app:layout_constraintStart_toStartOf="parent"
32        app:layout_constraintTop_toTopOf="parent"
33        app:layout_constraintVertical_bias="0.789" />
```

```

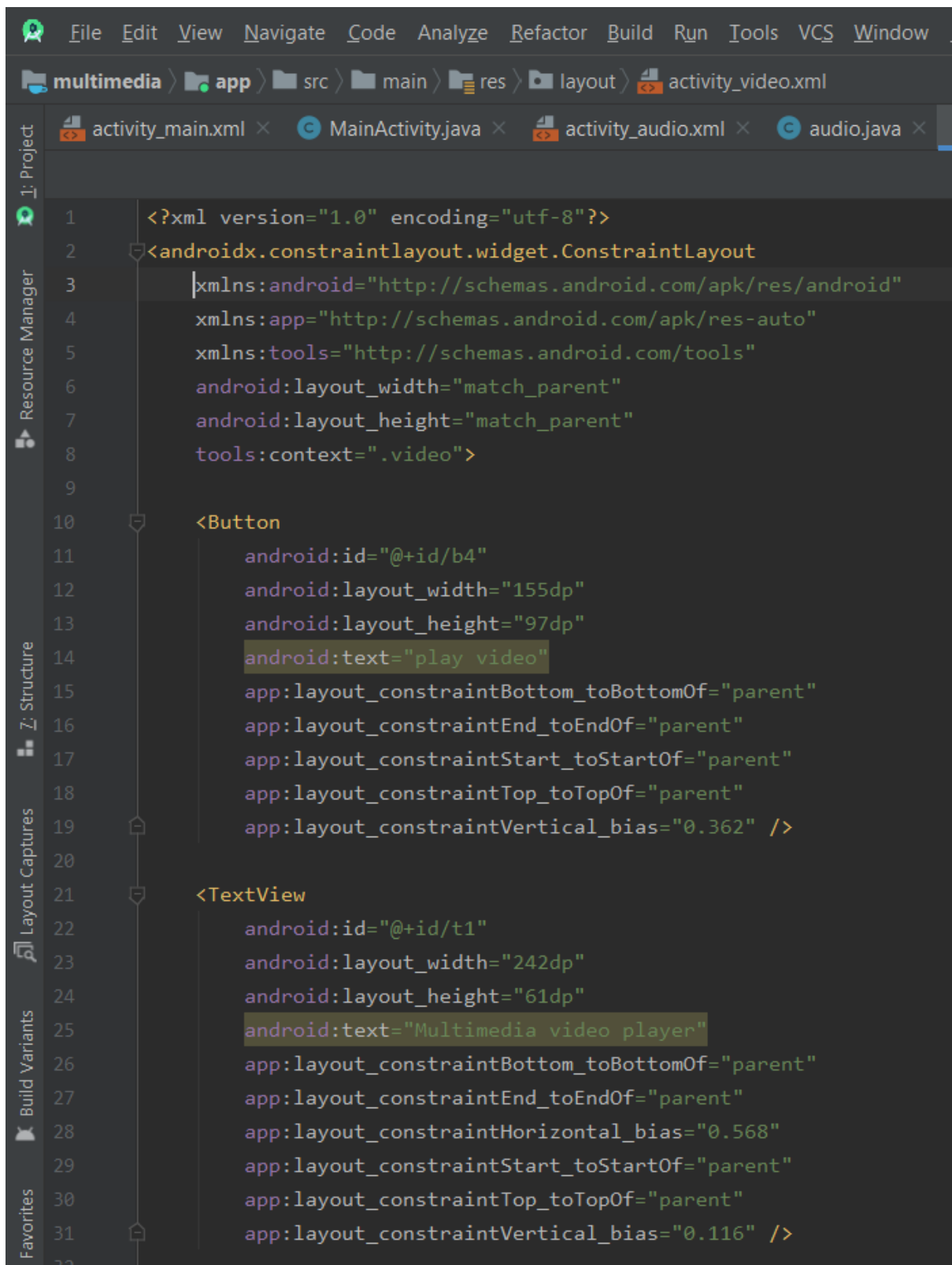
34 <Button
35     android:id="@+id/b1"
36     android:layout_width="103dp"
37     android:layout_height="101dp"
38     android:text="play"
39     app:layout_constraintBottom_toBottomOf="parent"
40     app:layout_constraintEnd_toEndOf="parent"
41     app:layout_constraintHorizontal_bias="0.1"
42     app:layout_constraintStart_toStartOf="parent"
43     app:layout_constraintTop_toTopOf="parent"
44     app:layout_constraintVertical_bias="0.363" />
45 <Button
46     android:id="@+id/b2"
47     android:layout_width="87dp"
48     android:layout_height="98dp"
49     android:text="pause"
50     app:layout_constraintBottom_toBottomOf="parent"
51     app:layout_constraintEnd_toEndOf="parent"
52     app:layout_constraintStart_toStartOf="parent"
53     app:layout_constraintTop_toTopOf="parent" />
54 <Button
55     android:id="@+id/b3"
56     android:layout_width="94dp"
57     android:layout_height="90dp"
58     android:text="stop"
59     app:layout_constraintBottom_toBottomOf="parent"
60     app:layout_constraintEnd_toEndOf="parent"
61     app:layout_constraintHorizontal_bias="0.845"
62     app:layout_constraintStart_toStartOf="parent"
63     app:layout_constraintTop_toTopOf="parent"
64     app:layout_constraintVertical_bias="0.388" />
65 </androidx.constraintlayout.widget.ConstraintLayout>

```

androidx.constraintlayout.widget.ConstraintLayout > Button



```
1 package com.example.multimedia;
2
3 import ...
4
12
13 public class audio extends AppCompatActivity {
14     Button play,pause,stop,back;
15     private static final String LOG_TAG=audio.class.getSimpleName();
16
17     @Override
18     protected void onCreate(Bundle savedInstanceState) {
19         super.onCreate(savedInstanceState);
20         setContentView(R.layout.activity_audio);
21         play=(Button)findViewById(R.id.b1);
22         pause=(Button)findViewById(R.id.b2);
23         stop=(Button)findViewById(R.id.b3);
24         back=(Button)findViewById(R.id.b4);
25         final MediaPlayer mp=new MediaPlayer();
26         try{
27             mp.setDataSource(Environment.getExternalStorageDirectory().getPath()+"/Music/Bird.mp3");
28             mp.prepare();
29         }
30         catch(Exception e){e.printStackTrace();}
31         play.setOnClickListener((v) -> { mp.start(); });
32         pause.setOnClickListener((v) -> { mp.pause(); });
33         stop.setOnClickListener((v) -> { mp.stop(); });
34
49     }
50     public void setBack(View view){
51         Log.d(LOG_TAG, msg: "clicked!!!!");
52         Intent i=new Intent( packageContext: this,MainActivity.class);
53         startActivity(i);
54     }
55 }
56
```



```

32
33     <Button
34         android:id="@+id/b1"
35         android:layout_width="122dp"
36         android:layout_height="69dp"
37         android:text="back"
38         android:onClick="setBack"
39         app:layout_constraintBottom_toBottomOf="parent"
40         app:layout_constraintEnd_toEndOf="parent"
41         app:layout_constraintHorizontal_bias="0.498"
42         app:layout_constraintStart_toStartOf="parent"
43         app:layout_constraintTop_toTopOf="parent"
44         app:layout_constraintVertical_bias="0.651" />
45 </androidx.constraintlayout.widget.ConstraintLayout>

```

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multimedia > app > src > main > java > com > example > multimedia > video

activity_main.xml x MainActivity.java x activity_audio.xml x audio.java x activity_vic

```

3  import androidx.appcompat.app.AppCompatActivity;
4
5  import android.content.Intent;
6  import android.net.Uri;
7  import android.os.Bundle;
8  import android.util.Log;
9  import android.view.View;
10 import android.widget.Button;
11
12 public class video extends AppCompatActivity {
13     Button play, back;
14     private static final String LOG_TAG = video.class.getSimpleName();
15
16     @Override
17     protected void onCreate(Bundle savedInstanceState) {
18         super.onCreate(savedInstanceState);
19         setContentView(R.layout.activity_video);
20         play = (Button) findViewById(R.id.b4);
21         back = (Button) findViewById(R.id.b1);
22         play.setOnClickListener((v) -> {
25             Uri uri=Uri.parse("https://www.youtube.com");
26             Intent i=new Intent(Intent.ACTION_VIEW,uri);
27             startActivity(i);
28         });
29     }
30
31     public void setBack(View view) {
32         Log.d(LOG_TAG, "msg: "clicked!!!!");
33         Intent i = new Intent( packageContext: this, MainActivity.class);
34         startActivity(i);
35     }
36 }
37
38

```