**Practical No.8**

**Aim:** Write an Android program to demonstrate web view.

**Objective:**

To understand working of web view.

**Code:**

**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">

<LinearLayout

android:layout\_width="fill\_parent"

android:layout\_height="wrap\_content"

android:orientation="horizontal"

android:weightSum="2">

<Button

android:id="@+id/loadWebPage"

android:layout\_width="0dp"

android:layout\_height="wrap\_content"

android:layout\_marginRight="10dp"

android:layout\_weight="1"

android:background="#444"

android:text="Load Web Page"

android:textColor="#fff"

android:textSize="14sp"

android:textStyle="bold" />

<Button

android:id="@+id/loadFromStaticHtml"

android:layout\_width="0dp"

android:layout\_height="wrap\_content"

android:layout\_marginLeft="10dp"

android:layout\_weight="1"

android:background="#444"

android:text="Load Static HTML"

android:textColor="#fff"

android:textSize="14sp"

android:textStyle="bold" />

</LinearLayout>

<WebView

android:id="@+id/simpleWebView"

android:layout\_width="fill\_parent"

android:layout\_height="fill\_parent"

android:layout\_marginTop="20dp"

android:scrollbars="none" />

</LinearLayout>

**MainActivity.java:-**

package com.example.web\_viewpract8;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.webkit.WebView;

import android.webkit.WebViewClient;

import android.widget.Button;

public class MainActivity extends AppCompatActivity implements View.OnClickListener {WebView simpleWebView;

Button loadWebPage, loadFromStaticHtml;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

//initiate buttons and a web view

loadFromStaticHtml=(Button) findViewById(R.id.loadFromStaticHtml);

loadFromStaticHtml.setOnClickListener(this);

loadWebPage=(Button) findViewById(R.id.loadWebPage);

loadWebPage.setOnClickListener(this);

simpleWebView=(WebView) findViewById(R.id.simpleWebView);

}

public void onClick(View v){

switch (v.getId()){

case R.id.loadFromStaticHtml:

// define static html text

String customHtml = "<html><body><h1>My Name is Riya</h1>" +

"<h1>Riya Suvarna</h1><h2>Riya Suvarna</h2><h3>Riya Suvarna</h3>" + "<p>Hello Riya Suvarna</p>" + "</body></html>";

simpleWebView.loadData(customHtml, "text/html", "UTF-8");

break;

case R.id.loadWebPage:

simpleWebView.setWebViewClient(new MyWebViewClient());

String url = "https://www.google.com/";

simpleWebView.getSettings().setJavaScriptEnabled(true);

simpleWebView.loadUrl(url); // load a web page in a web view

break;

}

}

private class MyWebViewClient extends WebViewClient {

@Override

public boolean shouldOverrideUrlLoading(WebView view, String url) {

view.loadUrl(url);

return true;

}

}

}

**AndroidManifest.xml**

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

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

xmlns:tools="http://schemas.android.com/tools"

package="com.example.web\_viewpract8">

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

<application

android:allowBackup="true" android:dataExtractionRules="@xml/data\_extraction\_rules" android:fullBackupContent="@xml/backup\_rules"

android:icon="@mipmap/ic\_launcher"

android:label="@string/app\_name" android:roundIcon="@mipmap/ic\_launcher\_roun"

android:supportsRtl="true" android:theme="@style/Theme.Web\_viewPract8"

tools:targetApi="31">

<activity

android:name=".MainActivity"

android:exported="true">

<intent-filter>

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

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

</intent-filter>

</activity>

</application>

</manifest>

**Output:**





**Practical No.9**

**Aim:** Write an Android program to demonstrate calculator.

**Objective:**

To understand working of Simple Calculator and Advance Calculator.

**Code:**

**activity\_main.xml:-**

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

<RelativeLayout 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">

<LinearLayout

android:id="@+id/l1"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="vertical">

<EditText

android:id="@+id/txt\_num1"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:background="#FFBB86FC"

android:ems="18"

android:hint="Enter Number 1"

android:inputType="numberDecimal"

android:textSize="25dp"/>

<EditText

android:id="@+id/txt\_num2"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:background="#FF03DAC5"

android:ems="18"

android:hint="Enter Number 2"

android:inputType="numberDecimal"

android:textSize="25dp"/>

</LinearLayout>

<LinearLayout

android:id="@+id/l2"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_below="@id/l1"

android:orientation="horizontal">

<Button

android:id="@+id/btn\_add"

android:layout\_width="wrap\_content"

android:layout\_height="match\_parent"

android:backgroundTint="#A52A2A"

android:layout\_weight="1"

android:text="Add"/>

<Button

android:id="@+id/btn\_sub"

android:layout\_width="wrap\_content"

android:layout\_height="match\_parent"

android:backgroundTint="#A52A2A"

android:layout\_weight="1"

android:text="Sub"/>

</LinearLayout>

<LinearLayout

android:id="@+id/l3"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_below="@id/l2"

android:orientation="horizontal">

<Button

android:id="@+id/btn\_mul"

android:layout\_width="wrap\_content"

android:layout\_height="match\_parent"

android:backgroundTint="#FFC0CB"

android:layout\_weight="1"

android:text="Mul"/>

<Button

android:id="@+id/btn\_div"

android:layout\_width="wrap\_content"

android:layout\_height="match\_parent"

android:backgroundTint="#FFC0CB"

android:layout\_weight="1"

android:text="Div"/>

</LinearLayout>

<LinearLayout

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/l3"

android:id="@+id/l4">

<TextView

android:id="@+id/result"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:ems="18"

android:inputType="numberDecimal"

android:textSize="25dp"/>

</LinearLayout>

</RelativeLayout>

**MainActivity.java:-**

package com.example.calculator;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.TextView;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

EditText num1,num2;

Button add,sub,mul,div;

TextView tvresult;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

num1=(EditText) findViewById(R.id.txt\_num1);

num2=(EditText) findViewById(R.id.txt\_num2);

add=(Button) findViewById(R.id.btn\_add);

sub=(Button) findViewById(R.id.btn\_sub);

mul=(Button) findViewById(R.id.btn\_mul);

div=(Button) findViewById(R.id.btn\_div);

tvresult=(TextView) findViewById(R.id.result);

add.setOnClickListener(view -> {

int n1, n2, result; n1=Integer.parseInt(num1.getText().toString()); n2=Integer.parseInt(num2.getText().toString()); result=n1+n2; Toast.makeText(getApplicationContext(),String.valueOf(result),Toast.LENGTH\_LONG).show();

tvresult.setText(String.valueOf(result));

} );

sub.setOnClickListener(view -> {

int n1, n2, result; n1=Integer.parseInt(num1.getText().toString()); n2=Integer.parseInt(num2.getText().toString());

result=n1-n2;

Toast.makeText(getApplicationContext(),String.valueOf(result),Toast.LENGTH\_LONG).show();

tvresult.setText(String.valueOf(result));

} );

mul.setOnClickListener(view -> {

int n1, n2, result; n1=Integer.parseInt(num1.getText().toString()); n2=Integer.parseInt(num2.getText().toString());

result=n1\*n2; Toast.makeText(getApplicationContext(),String.valueOf(result),Toast.LENGTH\_LONG).show();

tvresult.setText(String.valueOf(result));

});

div.setOnClickListener(view -> {

int n1, n2, result = 0;

try {

n1 = Integer.parseInt(num1.getText().toString());

n2 = Integer.parseInt(num2.getText().toString());

result = n1 / n2;

}

catch(ArithmeticException e)

{ Toast.makeText(getApplicationContext(), e.getMessage(), Toast.LENGTH\_LONG).show();

}

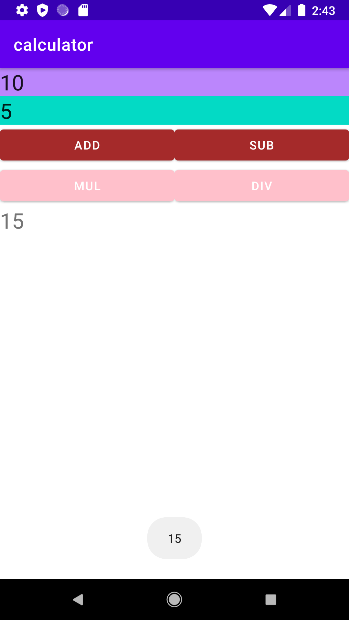
tvresult.setText(String.valueOf(result));

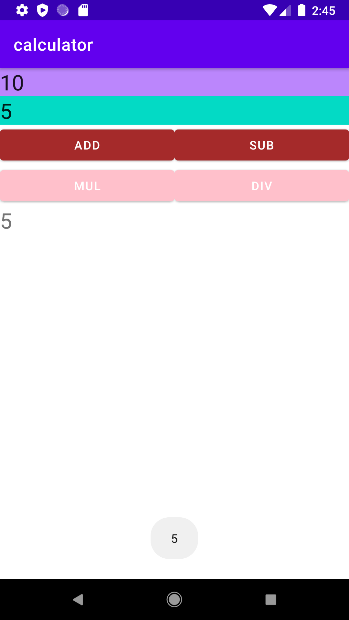
} );

}

}

**Output:**





**Advance Calculator:**

**Code:**

**activity\_main.xml:-**

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

<RelativeLayout 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">

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="vertical">

<TextView

android:id="@+id/textView"

android:layout\_width="match\_parent"

android:layout\_height="27dp"

android:layout\_marginTop="10dp"

android:layout\_marginBottom="40dp"

android:layout\_weight="1"

android:gravity="center"

android:text="Calculator"

android:textSize="34sp"

android:textStyle="bold" />

<EditText

android:id="@+id/editText1"

android:layout\_width="match\_parent"

android:layout\_height="100dp"

android:layout\_gravity="right"

android:layout\_weight="1"

android:ems="10"

android:gravity="right"

android:inputType="textPersonName"

android:textSize="34sp" />

<LinearLayout

android:id="@+id/lh1"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="horizontal">

<Button

android:id="@+id/button7" style="@style/Widget.AppCompat.Button.Colored"

android:layout\_width="100dp"

android:layout\_height="100dp"

android:layout\_weight="1"

android:text="7"

android:textSize="34sp"

android:textStyle="bold" />

<Button

android:id="@+id/button8"

style="@style/Widget.AppCompat.Button.Colored"

android:layout\_width="100dp"

android:layout\_height="100dp"

android:layout\_weight="1"

android:text="8"

android:textSize="34sp"

android:textStyle="bold" />

<Button

android:id="@+id/button9" style="@style/Widget.AppCompat.Button.Colored"

android:layout\_width="100dp"

android:layout\_height="100dp"

android:layout\_weight="1"

android:text="9"

android:textSize="34sp"

android:textStyle="bold" />

<Button

android:id="@+id/div" style="@style/Widget.AppCompat.Button.Colored"

android:layout\_width="100dp"

android:layout\_height="100dp"

android:layout\_weight="1"

android:text="/"

android:textSize="34sp"

android:textStyle="bold" />

</LinearLayout>

<LinearLayout

android:id="@+id/lh2"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:layout\_weight="1"

android:orientation="horizontal">

<Button

android:id="@+id/button4" style="@style/Widget.AppCompat.Button.Colored"

android:layout\_width="100dp"

android:layout\_height="100dp"

android:layout\_weight="1"

android:text="4"

android:textSize="34sp"

android:textStyle="bold" />

<Button

android:id="@+id/button5" style="@style/Widget.AppCompat.Button.Colored"

android:layout\_width="100dp"

android:layout\_height="100dp"

android:layout\_weight="1"

android:text="5"

android:textSize="34sp"

android:textStyle="bold" />

<Button

android:id="@+id/button6" style="@style/Widget.AppCompat.Button.Colored"

android:layout\_width="100dp"

android:layout\_height="100dp"

android:layout\_weight="1"

android:text="6"

android:textSize="34sp"

android:textStyle="bold" />

<Button

android:id="@+id/mul" style="@style/Widget.AppCompat.Button.Colored"

android:layout\_width="100dp"

android:layout\_height="100dp"

android:layout\_weight="1"

android:text="\*"

android:textSize="34sp"

android:textStyle="bold" />

</LinearLayout>

<LinearLayout

android:id="@+id/lh3"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="horizontal">

<Button

android:id="@+id/button1" style="@style/Widget.AppCompat.Button.Colored"

android:layout\_width="100dp"

android:layout\_height="100dp"

android:layout\_weight="1"

android:text="1"

android:textSize="34sp"

android:textStyle="bold" />

<Button

android:id="@+id/button2" style="@style/Widget.AppCompat.Button.Colored"

android:layout\_width="100dp"

android:layout\_height="100dp"

android:layout\_weight="1"

android:text="2"

android:textSize="34sp"

android:textStyle="bold" />

<Button

android:id="@+id/button3" style="@style/Widget.AppCompat.Button.Colored"

android:layout\_width="100dp"

android:layout\_height="100dp"

android:layout\_weight="1"

android:text="3"

android:textSize="34sp"

android:textStyle="bold" />

<Button

android:id="@+id/sub" style="@style/Widget.AppCompat.Button.Colored"

android:layout\_width="100dp"

android:layout\_height="100dp"

android:layout\_weight="1"

android:text="-"

android:textSize="34sp"

android:textStyle="bold" />

</LinearLayout>

<LinearLayout

android:id="@+id/lh4"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="horizontal">

<Button

android:id="@+id/equal" style="@style/Widget.AppCompat.Button.Colored"

android:layout\_width="100dp"

android:layout\_height="100dp"

android:layout\_weight="1"

android:text="="

android:textSize="34sp"

android:textStyle="bold" />

<Button

android:id="@+id/button0" style="@style/Widget.AppCompat.Button.Colored"

android:layout\_width="100dp"

android:layout\_height="100dp"

android:layout\_weight="1"

android:text="0"

android:textSize="34sp"

android:textStyle="bold" />

<Button

android:id="@+id/point" style="@style/Widget.AppCompat.Button.Colored"

android:layout\_width="100dp"

android:layout\_height="100dp"

android:layout\_weight="1"

android:text="."

android:textSize="34sp"

android:textStyle="bold" />

<Button

android:id="@+id/sum" style="@style/Widget.AppCompat.Button.Colored"

android:layout\_width="100dp"

android:layout\_height="100dp"

android:layout\_weight="1"

android:text="+"

android:textSize="34sp"

android:textStyle="bold" />

</LinearLayout>

<LinearLayout

android:id="@+id/lh5"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="horizontal">

<Button

android:id="@+id/c" style="@style/Widget.AppCompat.Button.Colored"

android:layout\_width="100dp"

android:layout\_height="100dp"

android:layout\_weight="1"

android:text="C"

android:textSize="34sp"

android:textStyle="bold" />

<Button

android:id="@+id/ac" style="@style/Widget.AppCompat.Button.Colored"

android:layout\_width="100dp"

android:layout\_height="100dp"

android:layout\_weight="1"

android:text="AC"

android:textSize="34sp"

android:textStyle="bold" />

<Button

android:id="@+id/cal" style="@style/Widget.AppCompat.Button.Colored"

android:layout\_width="200dp"

android:layout\_height="100dp"

android:layout\_weight="1"

android:text="Enter"

android:textSize="34sp"

android:textStyle="bold" />

</LinearLayout>

</LinearLayout>

</RelativeLayout>

**MainActivity.java:-**

package com.example.advance\_calculator;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

public class MainActivity extends AppCompatActivity {

Button b0,b1,b2,b3,b4,b5,b6,b7,b8,b9, badd,bsub,bmul,bdiv,bequal,bdot,bC,bAC;

EditText et1;

Double mvalOne, mValTwo;

boolean mAdd, mSub, mMul,mDiv;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

b0 = (Button) findViewById(R.id.button0);

b1 = (Button) findViewById(R.id.button1);

b2 = (Button) findViewById(R.id.button2);

b3 = (Button) findViewById(R.id.button3);

b4 = (Button) findViewById(R.id.button4);

b5 = (Button) findViewById(R.id.button5);

b6 = (Button) findViewById(R.id.button6);

b7 = (Button) findViewById(R.id.button7);

b8 = (Button) findViewById(R.id.button8);

b9 = (Button) findViewById(R.id.button9);

badd = (Button) findViewById(R.id.sum);

bsub = (Button) findViewById(R.id.sub);

bmul = (Button) findViewById(R.id.mul);

bdiv = (Button) findViewById(R.id.div);

bequal = (Button) findViewById(R.id.cal);

bdot = (Button) findViewById(R.id.point);

bC = (Button) findViewById(R.id.c);

bAC = (Button) findViewById(R.id.ac);

et1 = (EditText) findViewById(R.id.editText1);

b0.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

et1.setText(et1.getText() + "0");

}

});

b1.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

et1.setText(et1.getText() + "1");

}

});

b2.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

et1.setText(et1.getText() + "2");

}

});

b3.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

et1.setText(et1.getText() + "3");

}

});

b4.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

et1.setText(et1.getText() + "4");

}

});

b5.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

et1.setText(et1.getText() + "5");

}

});

b6.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

et1.setText(et1.getText() + "6");

}

});

b7.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

et1.setText(et1.getText() + "7");

}

});

b8.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

et1.setText(et1.getText() + "8");

}

});

b9.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

et1.setText(et1.getText() + "9");

}

});

badd.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

if(et1==null){

et1.setText("");

}

else{

mvalOne=Double.parseDouble(et1.getText()+"");

mAdd = true;

et1.setText(null);

}

}

});

bsub.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

if(et1==null){

et1.setText("");

}

else{

mvalOne=Double.parseDouble(et1.getText()+"");

mSub = true;

et1.setText(null);

}

}

});

bmul.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

if(et1==null){

et1.setText("");

}

else{

mvalOne=Double.parseDouble(et1.getText()+"");

mMul = true;

et1.setText(null);

}

}

});

bdiv.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

if(et1==null){

et1.setText("");

}

else{

mvalOne=Double.parseDouble(et1.getText()+"");

mDiv = true;

et1.setText(null);

}

}

});

bequal.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

mValTwo = Double.parseDouble(et1.getText()+"");

if(mAdd==true){

et1.setText(mvalOne + mValTwo+"");

mAdd=false;

}

if(mSub==true){

et1.setText(mvalOne - mValTwo+"");

mSub = false;

}

if(mMul==true){

et1.setText(mvalOne \*mValTwo+"");

mMul = false;

}

if(mDiv==true){

et1.setText(mvalOne / mValTwo+"");

mDiv = false;

}

}

});

bdot.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

et1.setText(et1.getText()+".");

}

});

bC.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

et1.setText("");

}

});

bAC.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

et1.setText("");

mvalOne=0.0;

mAdd = false;

mSub = false;

mMul= false;

mDiv = false;

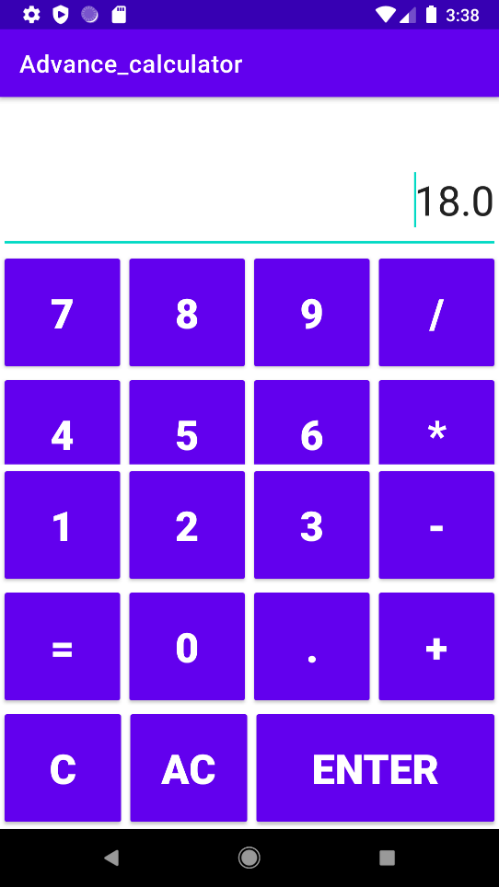
}

});

}

}

**Output:**



**Practical No.11**

**Aim:** Write an Android program to demonstrate use of internal memory for data storage (store data in file and retrieve data from file).

**Objective:**

To understand working of storing data in file and retrieve data from file using internal memory.

**Code:**

**activity\_main.xml:-**

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

<RelativeLayout 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">

<LinearLayout

android:id="@+id/l1"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="horizontal">

<TextView

android:id="@+id/textView"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Enter Text:-"

android:textSize="25dp"

android:textStyle="bold"

tools:layout\_editor\_absoluteX="28dp"

tools:layout\_editor\_absoluteY="16dp" />

<EditText

android:id="@+id/editText1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:ems="10"

android:textSize="25dp"

android:inputType="textPersonName"

android:text=""

tools:layout\_editor\_absoluteX="108dp"

tools:layout\_editor\_absoluteY="7dp" />

</LinearLayout>

<LinearLayout

android:id="@+id/l2"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_below="@id/l1"

android:orientation="horizontal">

<Button

android:id="@+id/b1" style="@style/Widget.AppCompat.Button.Colore"

android:layout\_width="90dp"

android:layout\_height="90dp"

android:layout\_weight="1"

android:text="Write"

android:textSize="30sp"

android:textStyle="bold" />

<Button

android:id="@+id/b2" style="@style/Widget.AppCompat.Button.Colore"

android:layout\_width="90dp"

android:layout\_height="90dp"

android:layout\_weight="1"

android:text="Read"

android:textSize="30sp"

android:textStyle="bold" />

<Button

android:id="@+id/b3" style="@style/Widget.AppCompat.Button.Colore"

android:layout\_width="90dp"

android:layout\_height="90dp"

android:layout\_weight="1"

android:text="Delete"

android:textSize="25sp"

android:textStyle="bold" />

</LinearLayout>

<LinearLayout

android:id="@+id/l3"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_below="@id/l2"

android:orientation="vertical">

<TextView

android:id="@+id/textView1"

android:layout\_width="match\_parent"

android:layout\_height="56dp"

android:layout\_marginTop="10dp"

android:layout\_marginBottom="40dp"

android:layout\_weight="1"

android:gravity="center"

android:text=""

android:textSize="25dp"

android:textStyle="bold" />

</LinearLayout>

</RelativeLayout>

**MainActivity.java:-**

package com.example.internalstorage;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.TextView;

import android.widget.Toast;

import java.io.FileInputStream;

import java.io.FileOutputStream;

import java.nio.charset.StandardCharsets;

public class MainActivity extends AppCompatActivity {

TextView input,output;

EditText data;

Button read, write,delete;

public static final String file="hello.txt";

String s;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

input=(TextView) findViewById(R.id.textView);

output=(TextView) findViewById(R.id.textView1);

data=(EditText) findViewById(R.id.editText1);

read=(Button) findViewById(R.id.b1);

write=(Button) findViewById(R.id.b2);

delete=(Button) findViewById(R.id.b3);

write.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

s=data.getText().toString();

try{

FileOutputStream fout=openFileOutput(file,MODE\_PRIVATE);

fout.write(s.getBytes()); Toast.makeText(MainActivity.this,"saved to"+getFilesDir()+"/"+file,Toast.LENGTH\_SHORT).show(); }

catch (Exception e){

e.printStackTrace();}}});

read.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

s=data.getText().toString();

try {

FileInputStream fin = openFileInput(file);

int c;

String temp = "";

while ((c = fin.read()) != -1) {

temp = temp + Character.toString((char) c);}

output.setText(temp);

}catch (Exception e){

e.printStackTrace();} }});

delete.setOnClickListener(new View.OnClickListener() {

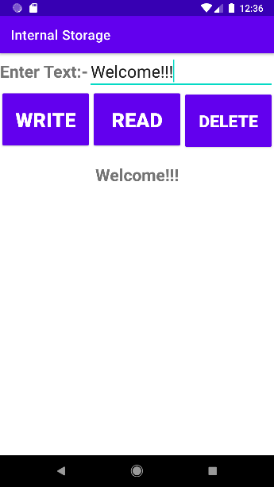
@Override

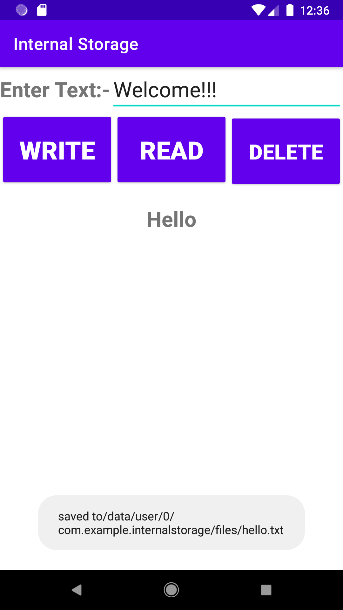
public void onClick (View v){

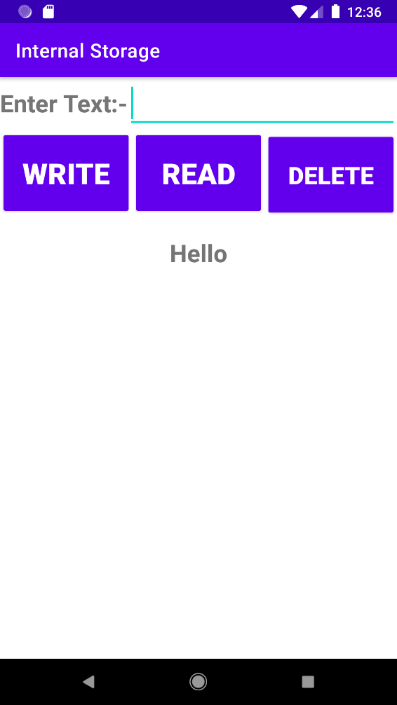
deleteFile(file);

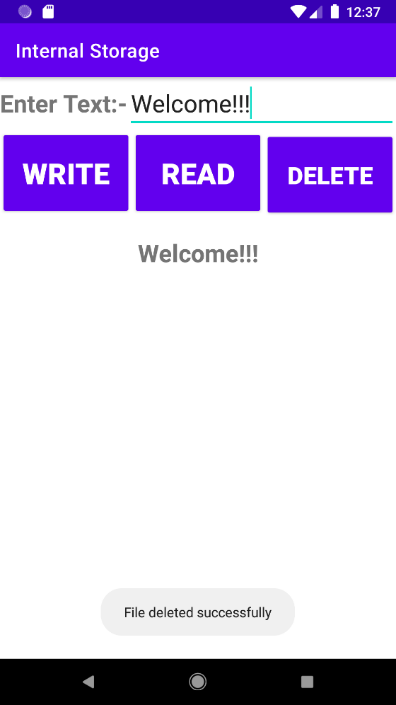
Toast.makeText(MainActivity.this, "File deleted successfully", Toast.LENGTH\_SHORT).show(); }});}}

**Output:**









**Practical No.12**

**Aim:** Write an Android program to demonstrate Use of shared preferences for data storage.

**Objective:**

To understand working of shared preference.

**Code:**

**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="wrap\_content"

android:layout\_margin="30dp"

android:orientation="vertical"

tools:context=".MainActivity">

<LinearLayout

android:id="@+id/t1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_centerHorizontal="true"

android:layout\_centerVertical="false"

android:orientation="horizontal">

<ImageView

android:id="@+id/imageView2"

android:layout\_width="339dp"

android:layout\_height="340dp"

android:src="@drawable/login" />

<TextView

android:id="@+id/textView1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Login" />

</LinearLayout>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="horizontal">

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Username:" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintLeft\_toLeftOf="parent" app:layout\_constraintRight\_toRightOf="parent" app:layout\_constraintTop\_toTopOf="parent" />

<EditText

android:id="@+id/usr"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_weight="1"

android:ems="10"

android:inputType="textPersonName" />

</LinearLayout>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:orientation="horizontal">

<TextView

android:id="@+id/textView"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Password:" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintLeft\_toLeftOf="parent" app:layout\_constraintRight\_toRightOf="parent" app:layout\_constraintTop\_toTopOf="parent" />

<EditText

android:id="@+id/pass"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_weight="1"

android:ems="10"

android:inputType="textPassword" />

</LinearLayout>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="20dp"

android:orientation="horizontal">

<CheckBox

android:id="@+id/remme"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="Remember me" />

</LinearLayout>

<Button

android:id="@+id/log"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_margin="5dp"

android:layout\_weight="1"

android:text="Login" />

</LinearLayout>

**MainActivity.java:-**

package com.example.login\_page;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.content.SharedPreferences;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.CheckBox;

import android.widget.EditText;

import android.widget.TextView;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

EditText uname, pwd;

Button login;

CheckBox rem;

String str\_usr, str\_pass;

SharedPreferences sharepref;

Boolean savelogin;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main); uname=(EditText)findViewById(R.id.usr);

pwd=(EditText)findViewById(R.id.pass);

login=(Button) findViewById(R.id.log);

rem=(CheckBox) findViewById(R.id.remme); sharepref=getSharedPreferences("LoginRef", MODE\_PRIVATE);

final SharedPreferences.Editor editor=sharepref.edit();

login.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

str\_usr=uname.getText().toString();

str\_pass=pwd.getText().toString();

if(str\_usr.equals("admin")&& str\_pass.equals("admin")) { Toast.makeText(MainActivity.this,"Login successful", Toast.LENGTH\_SHORT).show();

if(rem.isChecked()) {

editor.putBoolean("savelogin", true);

editor.putString("username", str\_usr);

editor.putString("password", str\_pass);

editor.commit(); } }

else { Toast.makeText(MainActivity.this, "Login unsuccessful", Toast.LENGTH\_SHORT).show(); } } });

savelogin=sharepref.getBoolean("savelogin", true);

if(savelogin==true) { uname.setText(sharepref.getString("username", null)); pwd.setText(sharepref.getString("password", null));

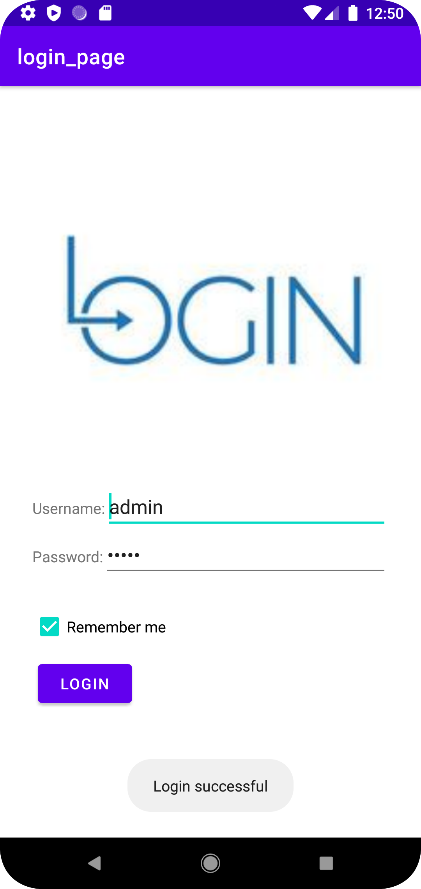
}

}

}

**Output:**





**Practical No.13**

**Aim:** Write a program to capture an image and perform the following animation on the image.

a. Expand

b. Rotate

c. Move

d. Blink

e. Fade

**Theory:**

Animation is the process of creating motion and shape change. Tween Animation takes some parameters such as start value, end value, size, time duration, rotation angle e.t.c and performs the required animation on that object. It can be applied to any type of object.

**Objective:**

To understand working of animation on the image.

**Code:**

**activity\_main.xml:-**

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

<RelativeLayout 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">

<ImageView

android:id="@+id/imageView"

android:layout\_width="181dp"

android:layout\_height="128dp"

android:layout\_marginStart="6dp"

android:src="@drawable/tree"

tools:layout\_editor\_absoluteX="-6dp"

tools:layout\_editor\_absoluteY="3dp" />

<Button

android:id="@+id/button"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content" android:layout\_below="@+id/imageView"

android:layout\_marginStart="6dp"

android:layout\_marginTop="63dp"

android:onClick="blink"

android:text="Blink"

tools:layout\_editor\_absoluteX="18dp"

tools:layout\_editor\_absoluteY="197dp"/>

<Button

android:id="@+id/button2"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@+id/button"

android:layout\_marginStart="6dp"

android:layout\_marginTop="25dp"

android:onClick="expand"

android:text="Expand"

tools:layout\_editor\_absoluteX="15dp"

tools:layout\_editor\_absoluteY="270dp"/>

<Button

android:id="@+id/button3"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@+id/button2"

android:layout\_marginStart="6dp"

android:layout\_marginTop="31dp"

android:onClick="fade"

android:text="Fade"

tools:layout\_editor\_absoluteX="13dp"

tools:layout\_editor\_absoluteY="340dp"/>

<Button

android:id="@+id/button4"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@+id/button3"

android:layout\_marginStart="6dp"

android:layout\_marginTop="25dp"

android:onClick="move"

android:text="Move"

tools:layout\_editor\_absoluteX="11dp"

tools:layout\_editor\_absoluteY="413dp"/>

<Button

android:id="@+id/button5"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@+id/button4"

android:layout\_marginStart="6dp"

android:layout\_marginTop="43dp"

android:onClick="rotate"

android:text="Rotate"

tools:layout\_editor\_absoluteX="13dp"

tools:layout\_editor\_absoluteY="487dp"/>

</RelativeLayout>

**MainActivity.java:-**

package com.example.animation;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.view.animation.Animation;

import android.view.animation.AnimationUtils;

import android.widget.Button;

import android.widget.ImageButton;

import android.widget.ImageView;

public class MainActivity extends AppCompatActivity {

Button blink,expand,fade,move,rotate;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

blink=(Button) findViewById(R.id.button);

expand=(Button) findViewById(R.id.button2);

fade=(Button) findViewById(R.id.button3);

move=(Button) findViewById(R.id.button4);

rotate=(Button) findViewById(R.id.button5);

}

public void expand(View view){

ImageView image=(ImageView) findViewById(R.id.imageView);

Animation animation= AnimationUtils.loadAnimation(getApplicationContext(),R.anim.expand);

image.startAnimation(animation);

}

public void move(View view){

ImageView image=(ImageView) findViewById(R.id.imageView);

Animation animation1= AnimationUtils.loadAnimation(getApplicationContext(),R.anim.move);

image.startAnimation(animation1);

}

public void blink(View view){

ImageView image=(ImageView) findViewById(R.id.imageView);

Animation animation2= AnimationUtils.loadAnimation(getApplicationContext(),R.anim.blink);

image.startAnimation(animation2);

}

public void fade(View view){

ImageView image=(ImageView) findViewById(R.id.imageView);

Animation animation3= AnimationUtils.loadAnimation(getApplicationContext(),R.anim.fade);

image.startAnimation(animation3);

}

public void rotate(View view){

ImageView image=(ImageView) findViewById(R.id.imageView);

Animation animation4= AnimationUtils.loadAnimation(getApplicationContext(),R.anim.rotate);

image.startAnimation(animation4);

}

}

**Blink.xml**

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

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

<alpha android:fromAlpha="0.0"

android:toAlpha="1.0" android:interpolator="@android:anim/accelerate\_decelerate\_interpolator"

android:duration="600"

android:repeatMode="reverse"

android:repeatCount="infinite"/>

</set>

**Expand.xml**

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

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

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

android:fromXScale="0.5"

android:toXScale="3.0"

android:fromYScale="0.5"

android:toYScale="3.0"

android:duration="5000"

android:pivotX="50%"

android:pivotY="50%">

</scale>

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

android:startOffset="5000"

android:fromXScale="3.0"

android:toXScale="0.5"

android:fromYScale="3.0"

android:toYScale="0.5"

android:duration="5000"

android:pivotX="50%"

android:pivotY="50%">

</scale>

</set>

**Fade.xml**

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

<set xmlns:android="http://schemas.android.com/apk/res/android" android:interpolator="@android:anim/accelerate\_interpolator">

<alpha

android:fromAlpha="0"

android:toAlpha="1"

android:duration="2000"></alpha>

<alpha

android:startOffset="2000"

android:fromAlpha="1"

android:toAlpha="0"

android:duration="2000"></alpha>

</set>

**Move.xml**

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

<set xmlns:android="http://schemas.android.com/apk/res/android" android:interpolator="@android:anim/linear\_interpolator"

android:fillAfter="true">

<translate

android:fromXDelta="0%p"

android:toXDelta="75%p"

android:duration="800"/>

</set>

**Rotate.xml**

<?xml version="1.0" encoding="utf-8"?><set xmlns:android="http://schemas.android.com/apk/res/android">

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

android:fromDegrees="0"

android:toDegrees="360"

android:pivotX="50%"

android:pivotY="50%"

android:duration="5000">

</rotate>

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

android:startOffset="5000"

android:fromDegrees="360"

android:toDegrees="0"

android:pivotX="50%"

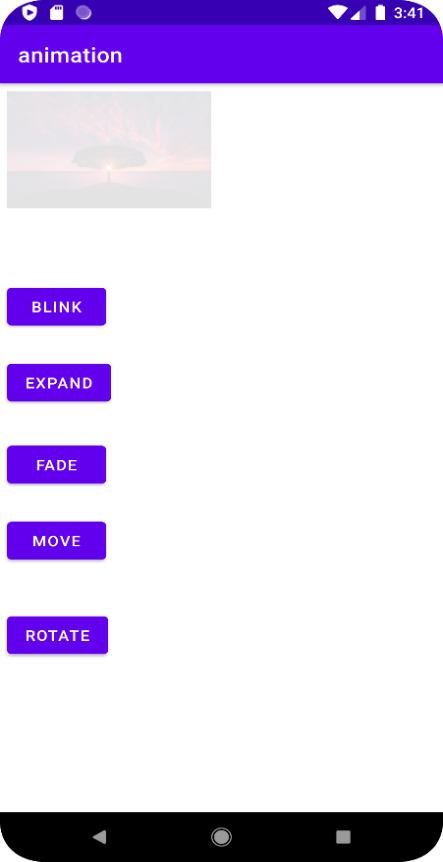
android:pivotY="50%"

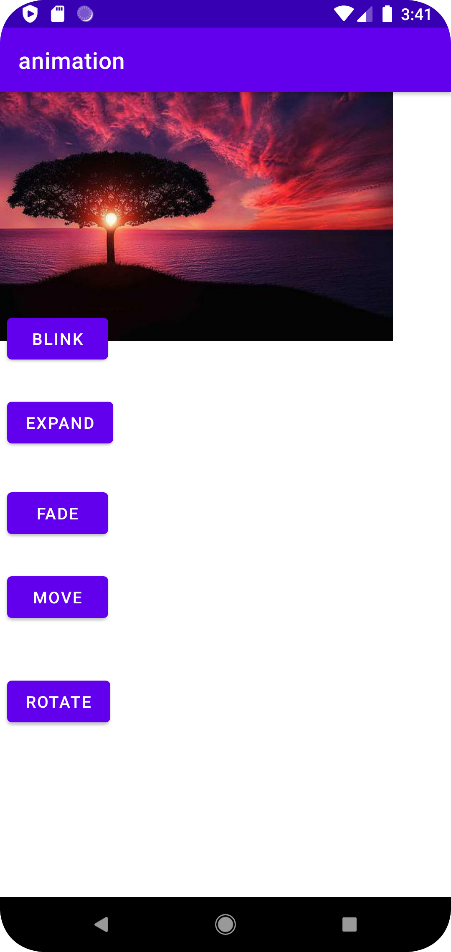
android:duration="5000">

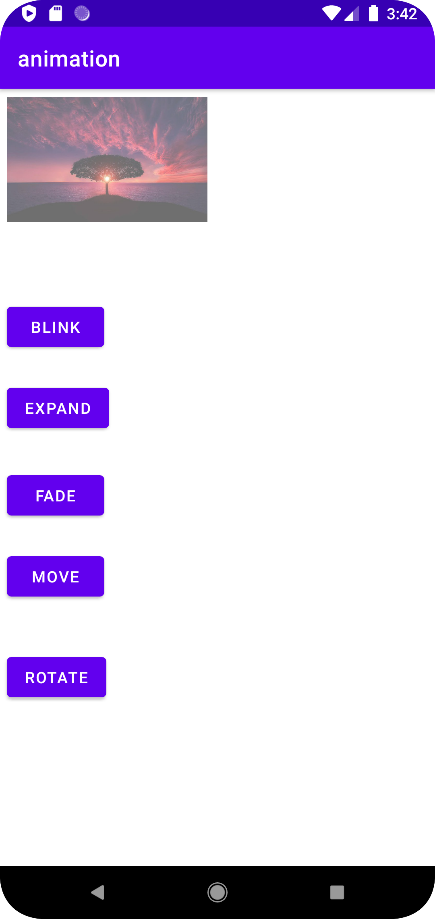
</rotate>

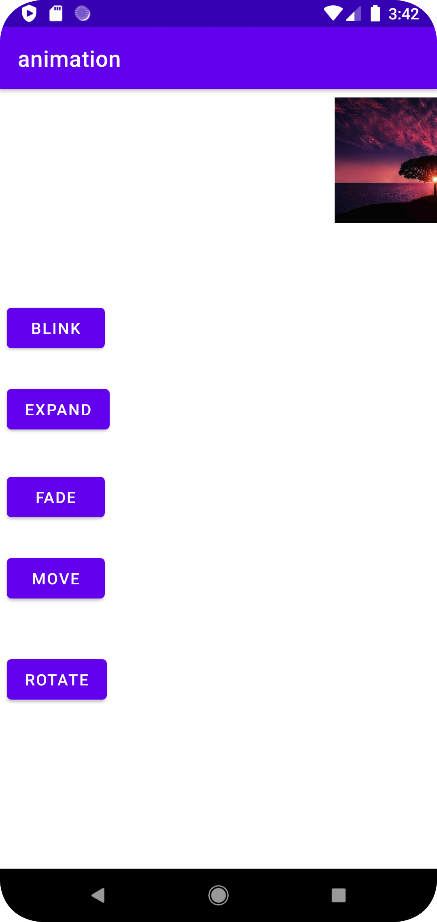
</set>

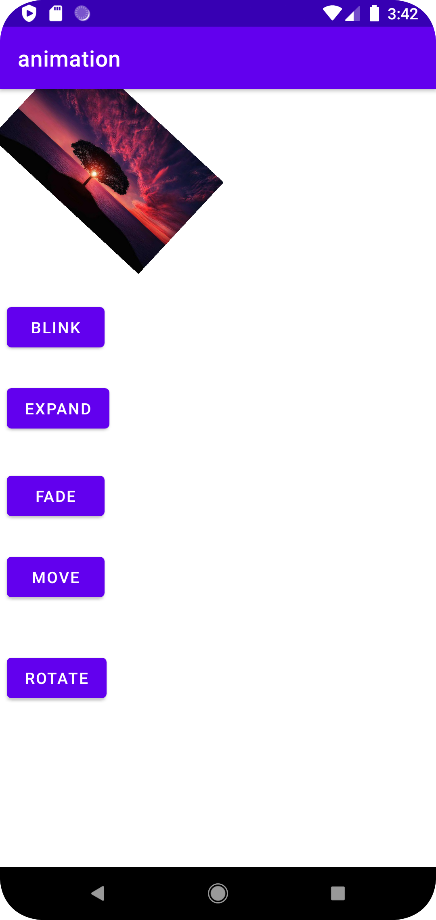
**Output:**











**Practical No.14**

**Aim:** Write a program to create a basic Mobile application that allows you to navigate through Google Maps and place marker on Virar.

**Objective:**

To understand workings of navigate through the Google Maps

**Steps:-**

Set up in Cloud Console

1) Go to <https://developers.google.com/maps/documentation/android-sdk/start>

2) In the Google Cloud Console, on the project selector page, click Create Project to begin creating a new Cloud project.

3) Create new project.

4) Click on API & Services Credentials Create Credentials API Key (Copy this API Key) We have to use this key in the code.

5) Got to Enabled APIs & Services Click +Enable APIs & Services got to Maps Maps SDK for Android Enable.

**Code:**

**activity\_main.xml:-**

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

<fragment xmlns:android="http://schemas.android.com/apk/res/android" xmlns:map="http://schemas.android.com/apk/res-auto" xmlns:tools="http://schemas.android.com/tools"android:id="@+id/map" android:name="com.google.android.gms.maps.SupportMapFragment"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MapsActivity" />

**MainActivity.java:-**

package com.example.map\_demo;

import androidx.fragment.app.FragmentActivity;

import android.os.Bundle;

import com.google.android.gms.maps.CameraUpdateFactory;

import com.google.android.gms.maps.GoogleMap;

import com.google.android.gms.maps.OnMapReadyCallback;

import com.google.android.gms.maps.SupportMapFragment;

import com.google.android.gms.maps.model.LatLng;

import com.google.android.gms.maps.model.MarkerOptions;

import com.example.map\_demo.databinding.ActivityMapsBinding;

public class MapsActivity extends FragmentActivity implements OnMapReadyCallback {

private GoogleMap mMap;

private ActivityMapsBinding binding;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

binding = ActivityMapsBinding.inflate(getLayoutInflater());

setContentView(binding.getRoot());

SupportMapFragment mapFragment

= (SupportMapFragment) getSupportFragmentManager()

.findFragmentById(R.id.map);

mapFragment.getMapAsync(this); }

@Override

public void onMapReady(GoogleMap googleMap) {

mMap = googleMap;

mera

LatLng virar = new LatLng(19.456360, 72.792458);

mMap.addMarker(new MarkerOptions().position(virar).title("Marker in Virar")); mMap.moveCamera(CameraUpdateFactory.newLatLng(virar));}

**AndroidManifest.xml**

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

<manifest xmlns:android="http://schemas.android.com/apk/res/android" xmlns:tools="http://schemas.android.com/tools" package="com.example.map\_demo">

<uses-permission android:name="android.permission.ACCESS\_COARSE\_LOCATION"/>

<uses-permission android:name="android.permission.ACCESS\_FINE\_LOCATION"/>

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

android:allowBackup="true" android:dataExtractionRules="@xml/data\_extraction\_rules" android:fullBackupContent="@xml/backup\_rules"android:icon="@mipmap/ic\_launcher"

android:label="@string/app\_name" android:roundIcon="@mipmap/ic\_launcher\_round"

android:supportsRtl="true" android:theme="@style/Theme.Map\_demo"

tools:targetApi="31">

<meta-data android:name="com.google.android.geo.API\_KEY" android:value="AIzaSyAtKbCMpxLK5VrjtXMhKDA\_GzQMF80u1Nw" />

<activity

android:name=".MapsActivity"

android:exported="true"

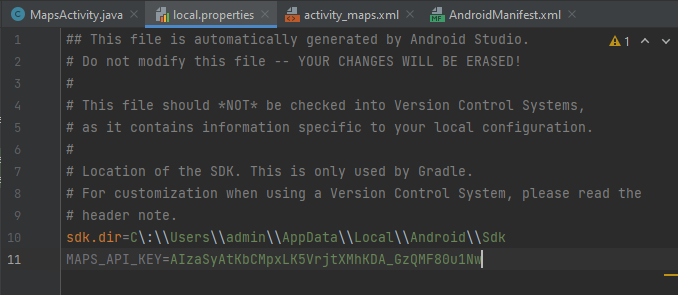
android:label="@string/title\_activity\_maps">

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

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

</application></manifest>

**local.properties**



**Output:**



**Practical No.15**

**Aim:** Write a program to create an application to display the current location of your device (Latitude and Longitude value).

**Objective:**

To understand working of creating an application to display the current location in the form of Latitude and Longitude value of your device .

**Code:**

**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="wrap\_content" android:layout\_centerHorizontal="false" android:orientation="vertical"

android:padding="30dp" tools:context=".MainActivity">

<Button

android:id="@+id/loc"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_weight="1"

android:text="Location"/>

<TextView

android:id="@+id/ll"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:gravity="center\_horizontal"

app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintLeft\_toLeftOf="parent" app:layout\_constraintRight\_toRightOf="parent" app:layout\_constraintTop\_toTopOf="parent" />

</LinearLayout>

**MainActivity.java:-**

package com.example.gps;

import androidx.annotation.NonNull;

import androidx.annotation.RequiresApi;

import androidx.appcompat.app.AppCompatActivity;

import androidx.core.app.ActivityCompat;

import android.Manifest;

import android.content.pm.PackageManager;

import android.location.Location;

import android.location.LocationListener;

import android.location.LocationManager;

import android.os.Build;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.TextView;

public class MainActivity extends AppCompatActivity { private Button b1; private TextView tv1;

private LocationManager lm;

private LocationListener lls;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

tv1 = (TextView) findViewById(R.id.ll);

b1 = (Button) findViewById(R.id.loc);

lm = (LocationManager) getSystemService(LOCATION\_SERVICE);

lls = new LocationListener() { @Override

public void onLocationChanged(Location location)

{

tv1.append("n " + location.getLongitude() + " " +

location.getLatitude());

}

@Override

public void onStatusChanged(String s, int i, Bundle bundle) {

}

@Override

public void onProviderEnabled(String s) {

} @Override

public void onProviderDisabled(String s) {

}

};

configure\_button();

}

@Override

public void onRequestPermissionsResult(int requestCode,@NonNull

String[] permissions, @NonNull int[] grantResults) {

super.onRequestPermissionsResult(requestCode, permissions, grantResults);

switch (requestCode) {

case 10:

configure\_button();

break;

default:

break;

}

}

void configure\_button() { if(ActivityCompat.checkSelfPermission(this, Manifest.permission.ACCESS\_FINE\_LOCATION)!= PackageManager.PERMISSION\_GRANTED && ActivityCompat.checkSelfPermission(this, Manifest.permission.ACCESS\_COARSE\_LOCATION)!=PackageManager.PERMISSION\_GRANTED) {

if(Build.VERSION.SDK\_INT >= Build.VERSION\_CODES.M) {

requestPermissions(new String[]{Manifest.permission.ACCESS\_COARSE\_LOCATION, Manifest.permission.ACCESS\_FINE\_LOCATION, Manifest.permission.INTERNET},10); }

return; }

b1.setOnClickListener(new View.OnClickListener() {

@RequiresApi(api = Build.VERSION\_CODES.M)

@Override

public void onClick(View view) { if(checkSelfPermission(Manifest.permission.ACCESS\_FINE\_LOCATION)!= PackageManager.PERMISSION\_GRANTED && checkSelfPermission(Manifest.permission.ACCESS\_COARSE\_LOCATION)!= PackageManager.PERMISSION\_GRANTED) {

onRequestPermissionsResult(int requestCode, String[] permissions, int[] grantResults)

return; }

lm.requestLocationUpdates("gps", 5000, 0, lls);

}

});

}

}

**AndroidManifest.xml**

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

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

xmlns:tools="http://schemas.android.com/tools"

package="com.example.gps">

<uses-permission android:name="android.permission.ACCESS\_COARSE\_LOCATION" />

<uses-permission android:name="android.permission.ACCESS\_FINE\_LOCATION" />

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

<application

android:allowBackup="true" android:dataExtractionRules="@xml/data\_extraction\_rules" android:fullBackupContent="@xml/backup\_rules"

android:icon="@mipmap/ic\_launcher"

android:label="@string/app\_name" android:roundIcon="@mipmap/ic\_launcher\_round"

android:supportsRtl="true"

android:theme="@style/Theme.Gps"

tools:targetApi="31">

<activity

android:name=".MainActivity"

android:exported="true">

<intent-filter>

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

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

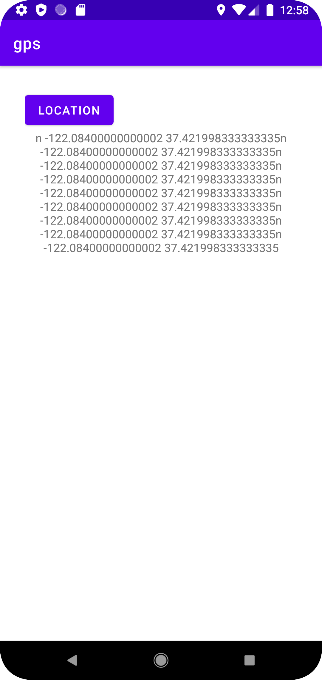
</intent-filter>

</activity>

</application>

</manifest>

**Output:**



**Practical No.16**

**Aim:** Write a program to Play an Audio.

**Objective:**

To understand the working of audio files in Android applications.

**Code:**

**activity\_main.xml:-**

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

<RelativeLayout 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:background="@color/purple\_200"

tools:context=".MainActivity">

<TextView

android:id="@+id/textview"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_alignParentTop="true"

android:layout\_centerHorizontal="true"

android:text="Music Player"

android:textSize="35dp" />

<TextView

android:id="@+id/textview1"

android:layout\_width="82dp"

android:layout\_height="wrap\_content"

android:layout\_alignParentTop="true"

android:layout\_centerHorizontal="true"

android:layout\_marginTop="153dp"

android:layout\_marginRight="21dp"

android:textAlignment="center"

android:layout\_toLeftOf="@id/seekBar"

android:text="00.00" />

<SeekBar

android:id="@+id/seekBar"

android:layout\_width="wrap\_content"

android:layout\_height="30dp"

android:layout\_below="@+id/textview" android:layout\_alignStart="@+id/textview" android:layout\_alignLeft="@+id/textview" android:layout\_alignEnd="@+id/textview" android:layout\_alignRight="@+id/textview"

android:layout\_marginStart="3dp"

android:layout\_marginLeft="3dp"

android:layout\_marginTop="100dp"

android:layout\_marginEnd="5dp"

android:layout\_marginRight="5dp" android:outlineSpotShadowColor="@color/purple\_200" />

<TextView

android:id="@+id/textview2"

android:layout\_width="70dp"

android:layout\_height="wrap\_content"

android:layout\_alignParentTop="true"

android:layout\_centerHorizontal="true"

android:layout\_marginLeft="24dp"

android:layout\_marginTop="154dp"

android:layout\_marginRight="3dp"

android:textAlignment="center" android:layout\_toRightOf="@id/seekBar"

android:text="00.00" />

<TextView

android:id="@+id/textView"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/seekBar"

android:layout\_alignParentTop="true"

android:layout\_centerHorizontal="true"

android:layout\_marginTop="204dp"

android:layout\_marginRight="18dp"

android:text="Song.mp3"

android:textSize="20dp" />

<Button

android:id="@+id/button"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/seekBar"

android:layout\_marginTop="102dp"

android:layout\_marginRight="18dp"

android:text="@string/rewind" />

<Button

android:id="@+id/button1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/seekBar"

android:layout\_toRightOf="@id/button"

android:layout\_alignParentTop="true"

android:layout\_centerHorizontal="true"

android:layout\_marginTop="279dp"

android:layout\_marginRight="18dp"

android:text="@string/pause" />

<Button

android:id="@+id/button2"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/seekBar"

android:layout\_toRightOf="@id/button1"

android:layout\_alignParentTop="true"

android:layout\_centerHorizontal="true"

android:layout\_marginTop="279dp"

android:layout\_marginRight="18dp"

android:text="@string/back" />

<Button

android:id="@+id/button3"

android:layout\_width="89dp"

android:layout\_height="wrap\_content"

android:layout\_below="@id/seekBar"

android:layout\_alignParentTop="true"

android:layout\_alignParentEnd="true"

android:layout\_marginTop="279dp"

android:layout\_marginEnd="4dp"

android:layout\_marginRight="18dp"

android:layout\_toRightOf="@id/button2"

android:text="@string/forward" />

</RelativeLayout>

**MainActivity.java:-**

package com.riya.audio;

import androidx.appcompat.app.AppCompatActivity;

import android.media.MediaPlayer;

import android.os.Bundle;

import android.os.Handler;

import android.view.View;

import android.widget.Button;

import android.widget.SeekBar;

import android.widget.TextView;

import android.widget.Toast;

import java.util.concurrent.TimeUnit;

public class MainActivity extends AppCompatActivity {

TextView song\_name,start\_time,end\_Time;

Button pause,play,forward,reverse;

SeekBar playTime;

private MediaPlayer mediaPlayer;

private double startTime=0;

private double endTime=0;

private Handler myHandler=new Handler();

private int forwardTime = 5000;

private int backwardTime = 5000;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main); reverse=(Button)findViewById(R.id.button); pause=(Button)findViewById(R.id.button1); play=(Button)findViewById(R.id.button2); forward=(Button)findViewById(R.id.button3); playTime=(SeekBar)findViewById(R.id.seekBar); song\_name=(TextView)findViewById(R.id.textView); start\_time=(TextView)findViewById(R.id.textview1); end\_Time=(TextView)findViewById(R.id.textview2);

song\_name.setText("Sample.mp3");

mediaPlayer = MediaPlayer.create(this, R.raw.sample);

playTime = (SeekBar)findViewById(R.id.seekBar);

playTime.setClickable(false);

pause.setEnabled(false);

play.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

Toast.makeText(getApplicationContext(), "Playing sound",Toast.LENGTH\_SHORT).show();

mediaPlayer.start();

endTime = mediaPlayer.getDuration();

//This method returns the total time duration of song in milliseconds startTime = mediaPlayer.getCurrentPosition();

//This method returns the current position of song in millisecondsplayTime.setProgress((int)startTime); myHandler.postDelayed(UpdateSongTime,100);

pause.setEnabled(true);

play.setEnabled(false);}});

pause.setOnClickListener(new View.OnClickListener() { @Override

public void onClick(View v) { Toast.makeText(getApplicationContext(), "Pausing sound",Toast.LENGTH\_SHORT).show();

mediaPlayer.pause();

pause.setEnabled(false);

play.setEnabled(true);}});

forward.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

int temp = (int)startTime; if((temp+forwardTime)<=endTime){

startTime = startTime + forwardTime;

mediaPlayer.seekTo((int) startTime);

//This method takes an integer, and move song to that particular position millisecond

Toast.makeText(getApplicationContext(),"You have Jumped forward 5 seconds",Toast.LENGTH\_SHORT).show();

}else{ Toast.makeText(getApplicationContext(),"Cannot jump forward 5 seconds",Toast.LENGTH\_SHORT).show();}}});

reverse.setOnClickListener(new View.OnClickListener() { @Override

public void onClick(View v) {

int temp = (int)startTime;

if((temp-backwardTime)>0){

startTime = startTime - backwardTime;

mediaPlayer.seekTo((int) startTime); Toast.makeText(getApplicationContext(),"You have Jumped backward 5 seconds",Toast.LENGTH\_SHORT).show();

}else{ Toast.makeText(getApplicationContext(),"Cannot jump backward 5 seconds",Toast.LENGTH\_SHORT).show();}}});}

private Runnable UpdateSongTime = new Runnable() {

public void run() {

startTime = mediaPlayer.getCurrentPosition();

start\_time.setText(String.format("%d min, %d sec", TimeUnit.MILLISECONDS.toMinutes((long) startTime), TimeUnit.MILLISECONDS.toSeconds((long) startTime) - TimeUnit.MINUTES.toSeconds(TimeUnit.MILLISECONDS.toMinutes((long) startTime)))

);

end\_Time.setText(String.format("%d min, %d sec", TimeUnit.MILLISECONDS.toMinutes((long) endTime), TimeUnit.MILLISECONDS.toSeconds((long) endTime) - TimeUnit.MINUTES.toSeconds(TimeUnit.MILLISECONDS.toMinutes((long) endTime)))

);

playTime.setProgress((int)startTime);

myHandler.postDelayed(this, 100);}};}

**string.xml:-**

<resources>

<string name="app\_name">audio</string>

<string name="back"><![CDATA[<]]></string>

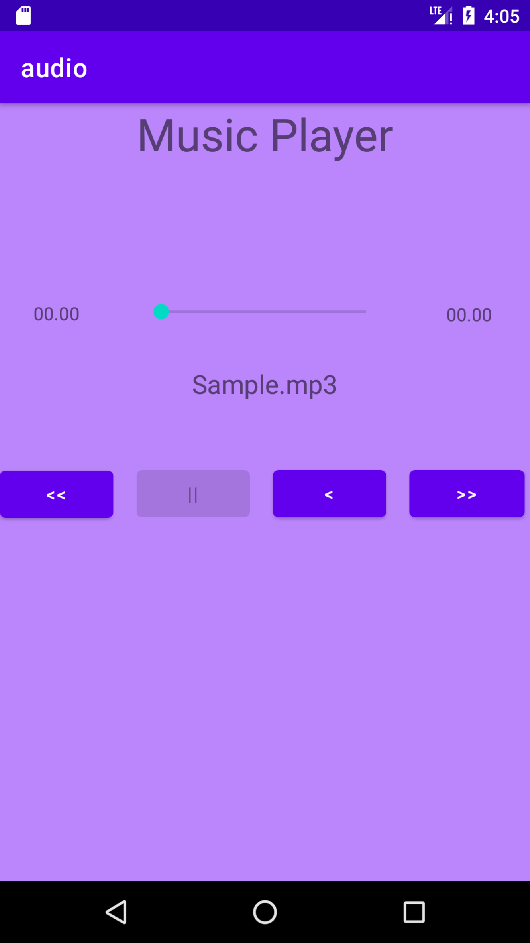
<string name="rewind"><![CDATA[<<]]></string>

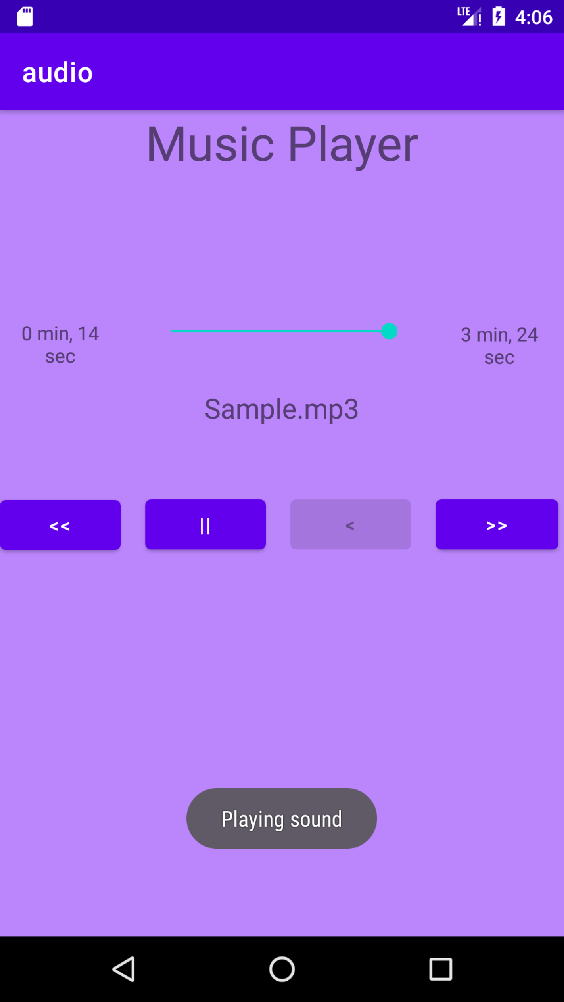
<string name="forward"><![CDATA[>>]]></string>

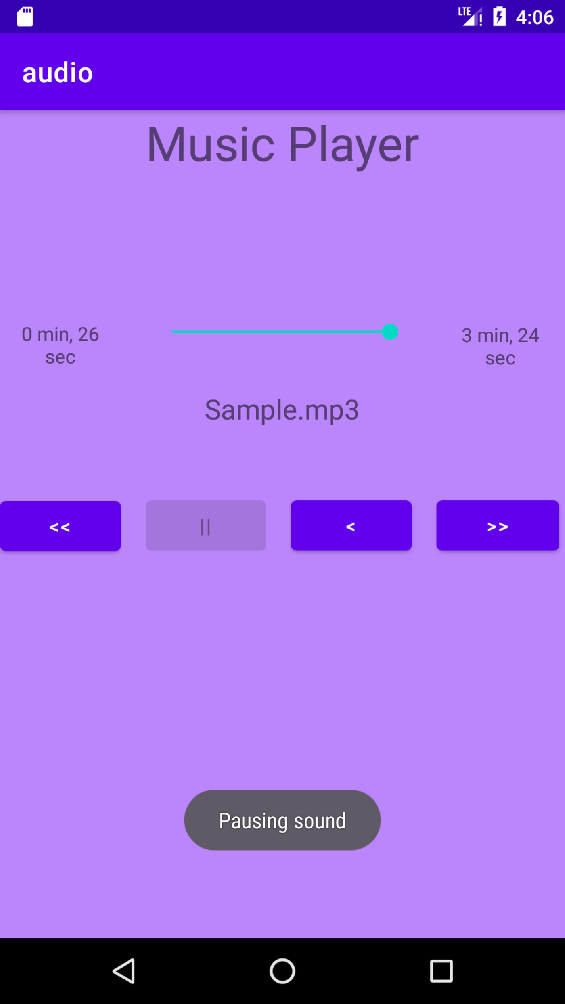
<string name="pause">||</string>

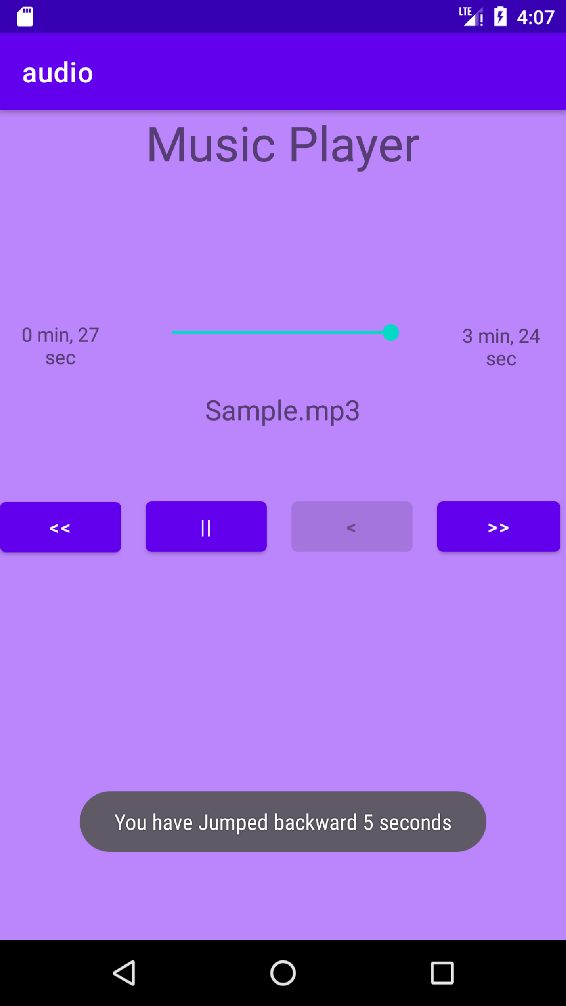
</resources>

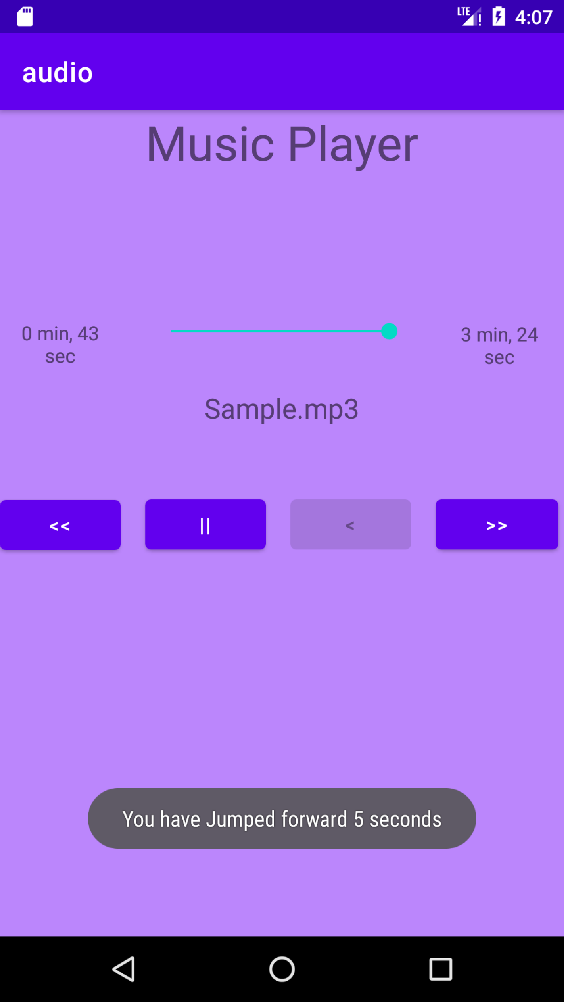
**Output:**











**Practical No.17**

**Aim:** Write a program to Play a Video in video view.

**Objective:**

To understand the working of Video in video view.

**Code:**

**activity\_main.xml:-**

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

<RelativeLayout 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">

<VideoView

android:id="@+id/videoView"

android:layout\_width="match\_parent"

android:layout\_height="318dp"

tools:layout\_editor\_absoluteX="0dp"

tools:layout\_editor\_absoluteY="0dp" />

<Button

android:id="@+id/button"

android:layout\_width="197dp"

android:layout\_height="65dp"

android:layout\_below="@id/videoView"

android:layout\_marginTop="73dp"

android:gravity="center"

android:onClick="play"

android:layout\_centerInParent="true"

android:text="Play" />

</RelativeLayout>

**MainActivity.java:-**

package com.example.video\_view;

importandroidx.appcompat.app.AppCompatActivity;

import andrid.net.Uri;

import andoid.os.Bundle;

import andoid.view.View;

import andoid.widget.Button;

import android.widget.MediaController;

import android.widget.VideoView;

public class MainActivity extends AppCompatActivity {

Button play;

VideoView videov;

MediaController mediaC;

View view;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

play=(Button) findViewById(R.id.button);

videov=(VideoView) findViewById(R.id.videoView);

mediaC = new MediaController(this);

}

public void play(View view){

String videopath="android.resource://com.example.video\_view/"+R.raw.sample;

Uri uri= Uri.parse(videopath);

videov.setVideoURI(uri);

videov.setMediaController(mediaC);

mediaC.setAnchorView(videov);

videov.start();

}

}

**Output:**

