**activity\_main.xml**

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

<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"

xmlns:app="http://schemas.android.com/apk/res-auto"

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

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<LinearLayout

android:layout\_width="409dp"

android:layout\_height="729dp"

android:orientation="vertical"

tools:layout\_editor\_absoluteX="1dp"

tools:layout\_editor\_absoluteY="1dp">

<Button

android:id="@+id/button"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="Record" />

<Button

android:id="@+id/button2"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="Stop" />

<Button

android:id="@+id/button3"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="Play" />

</LinearLayout>

</androidx.constraintlayout.widget.ConstraintLayout>

**MainActivity.java**

package com.example.ex12;

import androidx.appcompat.app.AppCompatActivity;

import androidx.core.app.ActivityCompat;

import androidx.core.content.ContextCompat;

import android.Manifest;

import android.content.ContextWrapper;

import android.content.pm.PackageManager;

import android.media.MediaPlayer;

import android.media.MediaRecorder;

import android.os.Bundle;

import android.os.Environment;

import android.view.View;

import android.widget.Button;

import android.widget.Toast;

import java.io.File;

public class MainActivity extends AppCompatActivity {

private static int MICROPHONE\_PERMISSION\_CODE = 200;

MediaRecorder mr;

MediaPlayer mp;

Button b1,b2,b3;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

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

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

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

if(isMicrophonePresent()) { getMicrophonePermission(); }

b1.setOnClickListener(new View.OnClickListener() {

@Override public void onClick(View view) {

try {

mr = new MediaRecorder();

mr.setAudioSource(MediaRecorder.AudioSource.MIC);

mr.setOutputFormat(MediaRecorder.OutputFormat.THREE\_GPP);

mr.setOutputFile(getRecordingFilePath());

mr.setAudioEncoder(MediaRecorder.AudioEncoder.AMR\_NB);

mr.prepare();

mr.start();

Toast.makeText(MainActivity.this,"Recording is started",Toast.LENGTH\_LONG).show();

} catch(Exception e) {

e.printStackTrace();

}

}

});

b2.setOnClickListener(new View.OnClickListener() {

@Override public void onClick(View view) {

mr.stop();

mr.release();

mr = null;

Toast.makeText(MainActivity.this,"Recording is Stopped",Toast.LENGTH\_LONG).show();

} });

b3.setOnClickListener(new View.OnClickListener() {

@Override public void onClick(View view) {

try {

mp = new MediaPlayer();

mp.setDataSource(getRecordingFilePath());

mp.prepare();

mp.start();

Toast.makeText(MainActivity.this,"Recording is played",Toast.LENGTH\_LONG).show();

} catch(Exception e) {

e.printStackTrace();

}

}

});

}

private boolean isMicrophonePresent() {

if(this.getPackageManager().hasSystemFeature(PackageManager.FEATURE\_MICROPHONE)) { return true; }

else { return false; }

}

private void getMicrophonePermission() {

if(ContextCompat.checkSelfPermission(this, Manifest.permission.RECORD\_AUDIO)==PackageManager.PERMISSION\_DENIED) {

ActivityCompat.requestPermissions(this,new String[]{Manifest.permission.RECORD\_AUDIO},MICROPHONE\_PERMISSION\_CODE);

}

}

private String getRecordingFilePath() {

ContextWrapper cw = new ContextWrapper(getApplicationContext());

File dr = cw.getExternalFilesDir(Environment.DIRECTORY\_MUSIC);

File f = new File(dr,"testRecordingFile"+".mp3");

return f.getPath();

}

}

**AndroidManifest.xml**

<uses-permission android:name="android.permission.RECORD\_AUDIO" />

**OUTPUT**



