**EXERCISE NO:12**

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**PROGRAM:**

**Main.Activity.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 paused",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();  
 }  
}

**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>

**AndroidMainfest.xml:**

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



