**package** com.prgguru.example;  
**import** java.io.BufferedInputStream;  
**import** java.io.File;  
**import** java.io.FileOutputStream;  
**import** java.io.IOException;  
**import** java.io.InputStream;  
**import** java.io.OutputStream;  
**import** java.net.URL;  
**import** java.net.URLConnection;  
**import** android.app.Activity;  
**import** android.app.Dialog;  
**import** android.app.ProgressDialog;  
**import** android.media.AudioManager;  
**import** android.media.MediaPlayer;  
**import** android.media.MediaPlayer.OnCompletionListener;  
**import** android.net.Uri;  
**import** android.os.AsyncTask;  
**import** android.os.Bundle;  
**import** android.os.Environment;  
**import** android.util.Log;  
**import** android.view.View;  
**import** android.widget.Button;  
**import** android.widget.Toast;  
**public class** AsyncTaskExample **extends** Activity {  
 *// Button to download and play Music*  
 **private** Button **btnPlayMusic**;  
 *// Media Player Object*  
 **private** MediaPlayer **mPlayer**;  
 *// Progress Dialog Object*  
 **private** ProgressDialog **prgDialog**;  
 *// Progress Dialog type (0 - for Horizontal progress bar)*  
 **public static final int *progress\_bar\_type*** = 0;  
 *// Music resource URL*  
 **private static** String *file\_url* = **"http://android.programmerguru.com/wp-content/uploads/2014/01/jai\_ho.mp3"**;  
 @Override  
 **public void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***main***);  
 *// Show Download Music Button*  
 **btnPlayMusic** = (Button) findViewById(R.id.***btnProgressBar***);  
 *// Download Music Button click listener*  
 **btnPlayMusic**.setOnClickListener(**new** View.OnClickListener() {  
 *// When Download Music Button is clicked*  
 **public void** onClick(View v) {  
 *// Disable the button to avoid playing of song multiple times*  
 *//btnPlayMusic.setEnabled(false);*  
 *// Downloaded Music File path in SD Card*  
 File file = **new** File(Environment.*getExternalStorageDirectory*().getPath()+**"/jai\_ho.mp3"**);  
 *// Check if the Music file already exists*  
 **if** (file.exists()) {  
 Toast.*makeText*(getApplicationContext(), **"File already exist under SD card, playing Music"**, Toast.***LENGTH\_LONG***).show();  
 *// Play Music*  
 playMusic();  
 *// If the Music File doesn't exist in SD card (Not yet downloaded)*  
 } **else** {  
 Toast.*makeText*(getApplicationContext(), **"File doesn't exist under SD Card, downloading Mp3 from Internet"**, Toast.***LENGTH\_LONG***).show();  
 *// Trigger Async Task (onPreExecute method)*  
 **new** DownloadMusicfromInternet().execute(*file\_url*);  
 }  
 }  
 });  
 }  
 *// Show Dialog Box with Progress bar*  
 @Override  
 **protected** Dialog onCreateDialog(**int** id) {  
 **switch** (id) {  
 **case *progress\_bar\_type***:  
 **prgDialog** = **new** ProgressDialog(**this**);  
 **prgDialog**.setMessage(**"Downloading Mp3 file. Please wait..."**);  
 **prgDialog**.setIndeterminate(**false**);  
 **prgDialog**.setMax(100);  
 **prgDialog**.setProgressStyle(ProgressDialog.***STYLE\_HORIZONTAL***);  
 **prgDialog**.setCancelable(**false**);  
 **prgDialog**.show();  
 **return prgDialog**;  
 **default**:  
 **return null**;  
 }  
 }  
 *// Async Task Class*  
 **class** DownloadMusicfromInternet **extends** AsyncTask<String, String, String> {  
 *// Show Progress bar before downloading Music*  
 @Override  
 **protected void** onPreExecute() {  
 **super**.onPreExecute();  
 *// Shows Progress Bar Dialog and then call doInBackground method*  
 showDialog(***progress\_bar\_type***);  
 }  
 *// Download Music File from Internet*  
 @Override  
 **protected** String doInBackground(String... f\_url) {  
 **int** count;  
 **try** {  
 URL url = **new** URL(f\_url[0]);  
 URLConnection conection = url.openConnection();  
 conection.connect();  
 *// Get Music file length*  
 **int** lenghtOfFile = conection.getContentLength();  
 *// input stream to read file - with 8k buffer*  
 InputStream input = **new** BufferedInputStream(url.openStream(),10\*1024);  
 *// Output stream to write file in SD card*  
 OutputStream output = **new** FileOutputStream(Environment.*getExternalStorageDirectory*().getPath()+**"/jai\_ho.mp3"**);  
 **byte** data[] = **new byte**[1024];  
 **long** total = 0;  
 **while** ((count = input.read(data)) != -1) {  
 total += count;  
 *// Publish the progress which triggers onProgressUpdate method*  
 publishProgress(**""** + (**int**) ((total \* 100) / lenghtOfFile));  
 *// Write data to file*  
 output.write(data, 0, count);  
 }  
 *// Flush output*  
 output.flush();  
 *// Close streams*  
 output.close();  
 input.close();  
 } **catch** (Exception e) {  
 Log.*e*(**"Error: "**, e.getMessage());  
 }  
 **return null**;  
 }  
 *// While Downloading Music File*  
 **protected void** onProgressUpdate(String... progress) {  
 *// Set progress percentage*  
 **prgDialog**.setProgress(Integer.*parseInt*(progress[0]));  
 }  
 *// Once Music File is downloaded*  
 @Override  
 **protected void** onPostExecute(String file\_url) {  
 *// Dismiss the dialog after the Music file was downloaded*  
 dismissDialog(***progress\_bar\_type***);  
 Toast.*makeText*(getApplicationContext(), **"Download complete, playing Music"**, Toast.***LENGTH\_LONG***).show();  
 *// Play the music*  
 playMusic();  
 }  
 }  
   
 *// Play Music*  
 **protected void** playMusic(){  
 *// Read Mp3 file present under SD card*  
 Uri myUri1 = Uri.*parse*(**"file:///sdcard/jai\_ho.mp3"**);  
 **mPlayer** = **new** MediaPlayer();  
 **mPlayer**.setAudioStreamType(AudioManager.***STREAM\_MUSIC***);  
 **try** {  
 **mPlayer**.setDataSource(getApplicationContext(), myUri1);  
 **mPlayer**.prepare();  
 *// Start playing the Music file*  
 **mPlayer**.start();  
 **mPlayer**.setOnCompletionListener(**new** OnCompletionListener() {  
 **public void** onCompletion(MediaPlayer mp) {  
 *//* ***TODO Auto-generated method stub***  
 *// Once Music is completed playing, enable the button*  
 **btnPlayMusic**.setEnabled(**true**);  
 Toast.*makeText*(getApplicationContext(), **"Music completed playing"**,Toast.***LENGTH\_LONG***).show();  
 }  
 });  
 } **catch** (IllegalArgumentException e) {  
 Toast.*makeText*(getApplicationContext(), **"You might not set the URI correctly!"**, Toast.***LENGTH\_LONG***).show();  
 } **catch** (SecurityException e) {  
 Toast.*makeText*(getApplicationContext(), **"URI cannot be accessed, permissed needed"**, Toast.***LENGTH\_LONG***).show();  
 } **catch** (IllegalStateException e) {  
 Toast.*makeText*(getApplicationContext(), **"Media Player is not in correct state"**, Toast.***LENGTH\_LONG***).show();  
 } **catch** (IOException e) {  
 Toast.*makeText*(getApplicationContext(), **"IO Error occured"**, Toast.***LENGTH\_LONG***).show();  
 }  
 }  
}

manifest.xml

<**manifest xmlns:android="http://schemas.android.com/apk/res/android"**  
 **package="com.prgguru.example"**  
 **android:versionCode="1"**  
 **android:versionName="1.0"** >  
 <**uses-sdk**  
 **android:minSdkVersion="10"**  
 **android:targetSdkVersion="15"** />  
 *<!-- Permission: Allow Connect to Internet -->*  
 <**uses-permission android:name="android.permission.INTERNET"** />  
   
 *<!-- Permission: Writing to SDCard -->*  
 <**uses-permission android:name="android.permission.WRITE\_EXTERNAL\_STORAGE"** />  
 <**application**  
 **android:icon="@drawable/ic\_launcher"**  
 **android:label="@string/app\_name"**  
 >  
 <**activity**  
 **android:name=".AsyncTaskExample"**  
 **android:label="@string/title\_activity\_asyn\_task\_example" android:screenOrientation="portrait"** >  
 <**intent-filter**>  
 <**action android:name="android.intent.action.MAIN"** />  
 <**category android:name="android.intent.category.LAUNCHER"** />  
 </**intent-filter**>  
 </**activity**>  
 </**application**>  
</**manifest**>

activity\_main.xml

*<?***xml version="1.0" encoding="utf-8"***?>*  
<**LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"**  
 **android:layout\_width="fill\_parent"**  
 **android:layout\_height="fill\_parent"**  
 **android:orientation="vertical"** >  
 <**Button**  
 **android:id="@+id/btnProgressBar"**  
 **android:layout\_width="match\_parent"**  
 **android:layout\_height="wrap\_content"**  
 **android:layout\_marginTop="50dip"**  
 **android:text="@string/btn\_title"** />  
   
</**LinearLayout**>