Name	**:**	**V Vikram**	**Class**	**:** CSE 'C'
Reg. No.	**:**	**18 5001 194**	**Date**	**:** 31/10/2021
Subject	**:**	**UCS1711---Mobile Application Development Lab**		

Ex. No. 8 READING AND WRITING A FILE IN ANDROID

AIM :

To create an android application that writes a file containing some contents to a SD card.

CODE :

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">

   <TextView android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:text="Reading and Writing to External Storage"
        android:textColor="@color/black"
        android:textStyle="bold"
        android:textSize="38sp"/>

   <EditText
        android:id="@+id/myInputText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:gravity="top|left"
        android:hint="Write the file contents here"
        android:inputType="textMultiLine"
        android:lines="5"
        android:minLines="3"
```

```
        android:textSize="25dp">

        <requestFocus />
    </EditText>

    <LinearLayout
        android:layout_width="match_parent"
android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:weightSum="1.0"
        android:layout_marginTop="20dp">

        <Button
            android:id="@+id/saveExternalStorage"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_weight="0.5"
            android:backgroundTint="@color/teal_700"
            android:text="SAVE"
            android:textSize="20dp"
            android:textStyle="bold" />

        <Button android:id="@+id/getExternalStorage"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_weight="0.5"
            android:backgroundTint="@color/teal_700"
            android:textStyle="bold"
            android:textSize="20dp"
            android:text="READ" />

    </LinearLayout>

    <TextView android:id="@+id/response"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content" android:padding="5dp"
        android:text=""
        android:textAppearance="?android:attr/textAppearanceMedium" />

</LinearLayout>
```

MainActivity.java :

```
package com.example.v1;

import android.app.Activity;
import android.os.Bundle;
import android.os.Environment;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import java.io.BufferedReader;
import java.io.DataInputStream;
import java.io.File;
import java.io.FileInputStream;
import java.io.FileOutputStream;
import java.io.IOException;
import java.io.InputStreamReader;


public class MainActivity extends Activity {
   EditText inputText;
   TextView response;
   Button saveButton, readButton;

   private String filename = "SampleFile.txt";
   private String filepath = "MyFileStorage";
   File myExternalFile;
   String myData = "";

   @Override
   protected void onCreate(Bundle savedInstanceState) {
       super.onCreate(savedInstanceState);
       setContentView(R.layout.activity_main);

       inputText = (EditText) findViewById(R.id.myInputText);
       response = (TextView) findViewById(R.id.response);

       saveButton = (Button) findViewById(R.id.saveExternalStorage);
       saveButton.setOnClickListener(new OnClickListener() {
           @Override
           public void onClick(View v) {
               try {
                   FileOutputStream fos = new
FileOutputStream(myExternalFile);
                   fos.write(inputText.getText().toString().getBytes());
                   fos.close();
               } catch (IOException e) {
                   e.printStackTrace();
               }
               inputText.setText("");
```

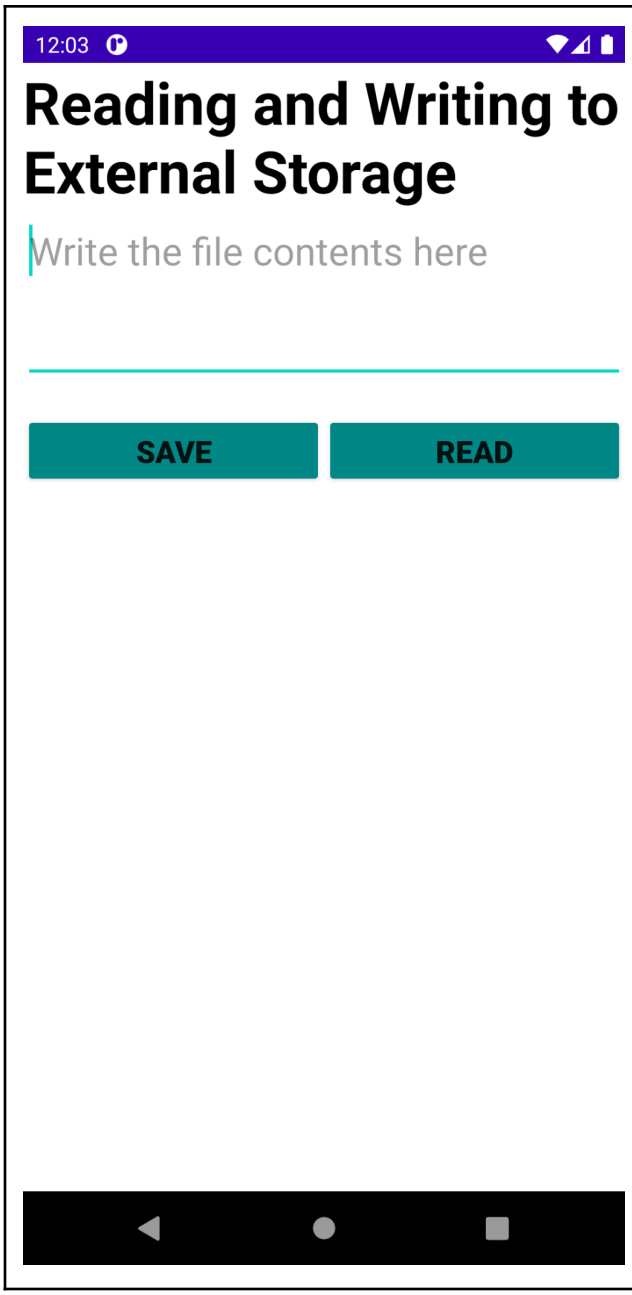
```
                response.setText("SampleFile.txt saved to External
Storage...");
            }
        });
        readButton = (Button) findViewById(R.id.getExternalStorage);
        readButton.setOnClickListener(new OnClickListener() {
            @Override
            public void onClick(View v) {
                try {
                    FileInputStream fis = new
FileInputStream(myExternalFile);
                    DataInputStream in = new DataInputStream(fis);
                    BufferedReader br =
                            new BufferedReader(new InputStreamReader( in ));
                    String strLine;
                    while ((strLine = br.readLine()) != null) {
                        myData = myData + strLine;
                    } in .close();
                } catch (IOException e) {
                    e.printStackTrace();
                }
                inputText.setText(myData);
                response.setText("SampleFile.txt data retrieved from Internal
Storage...");
            }
        });

        if (!isExternalStorageAvailable() || isExternalStorageReadOnly()) {
            saveButton.setEnabled(false);
        } else {
            myExternalFile = new File(getExternalFilesDir(filepath),
filename);
        }
    }
    private static boolean isExternalStorageReadOnly() {
        String extStorageState = Environment.getExternalStorageState();
        if (Environment.MEDIA_MOUNTED_READ_ONLY.equals(extStorageState)) {
            return true;
        }
        return false;
    }
    private static boolean isExternalStorageAvailable() {
        String extStorageState = Environment.getExternalStorageState();
        if (Environment.MEDIA_MOUNTED.equals(extStorageState)) {
            return true;
        }
        return false;
    }
}
```

AndroidManifest.xml :

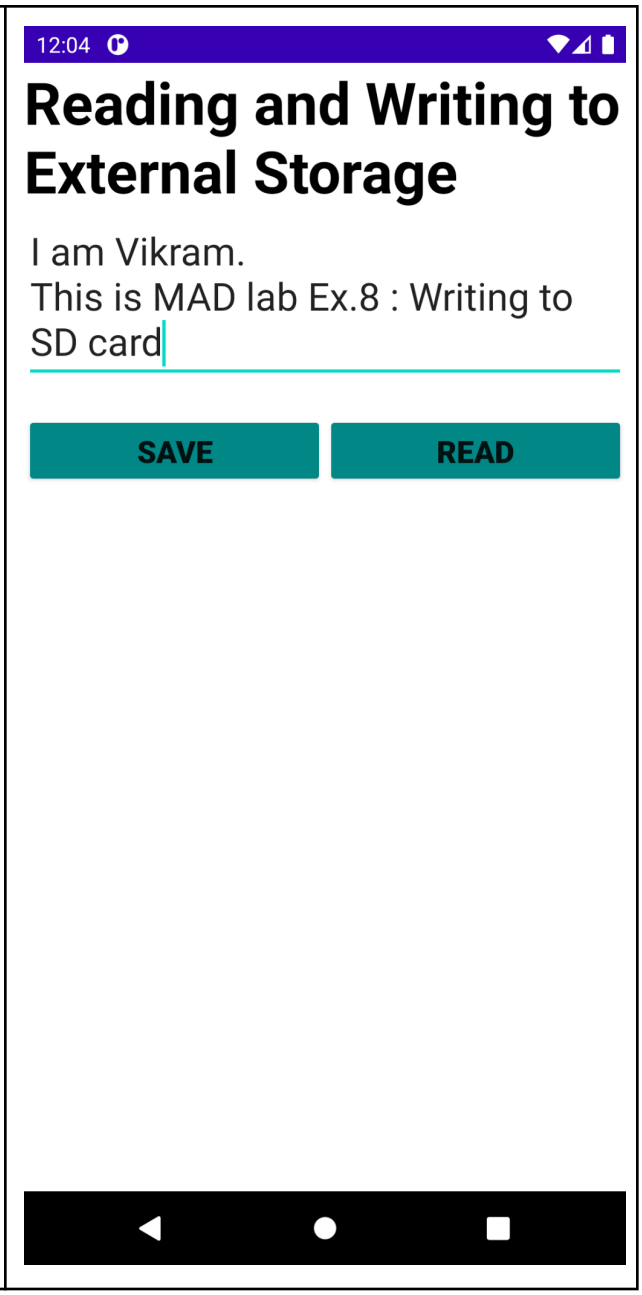
```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
   package="com.example.v1">
   <uses-permission
android:name="android.permission.READ_EXTERNAL_STORAGE"/>
   <uses-permission
android:name="android.permission.WRITE_EXTERNAL_STORAGE"/>

   <application
       android:allowBackup="true"
       android:icon="@mipmap/ic_launcher"
       android:label="@string/app_name"
       android:roundIcon="@mipmap/ic_launcher_round"
       android:supportsRtl="true"
       android:theme="@style/Theme.V1">
       <activity android:name=".MainActivity">
           <intent-filter>
               <action android:name="android.intent.action.MAIN" />

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

</manifest>
```

Output Snapshots:

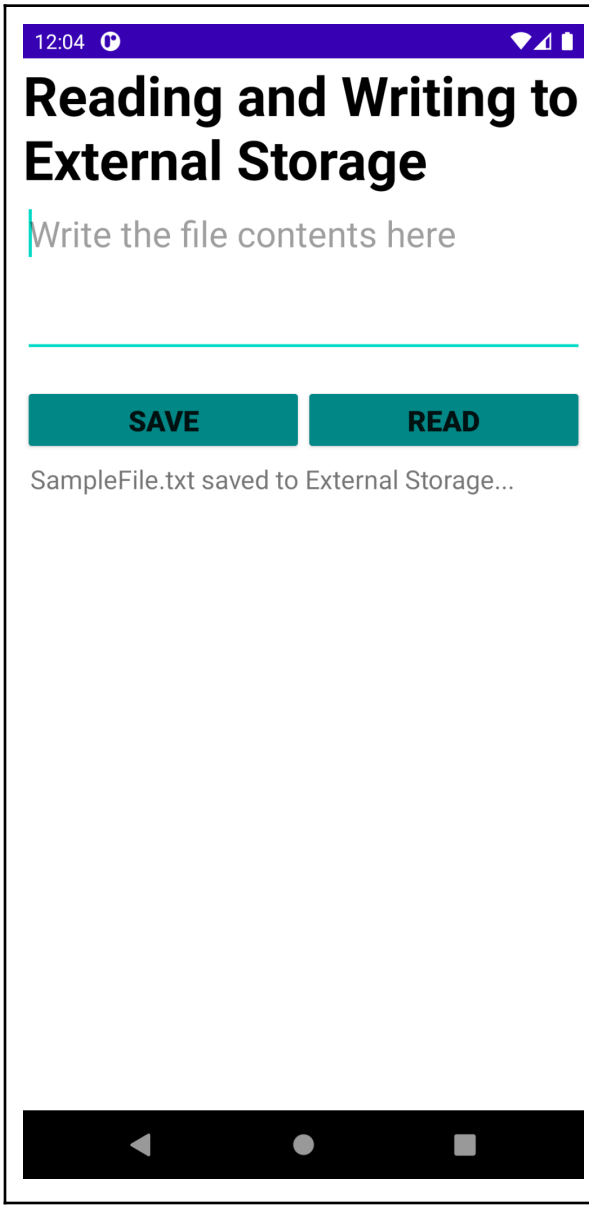
Home page



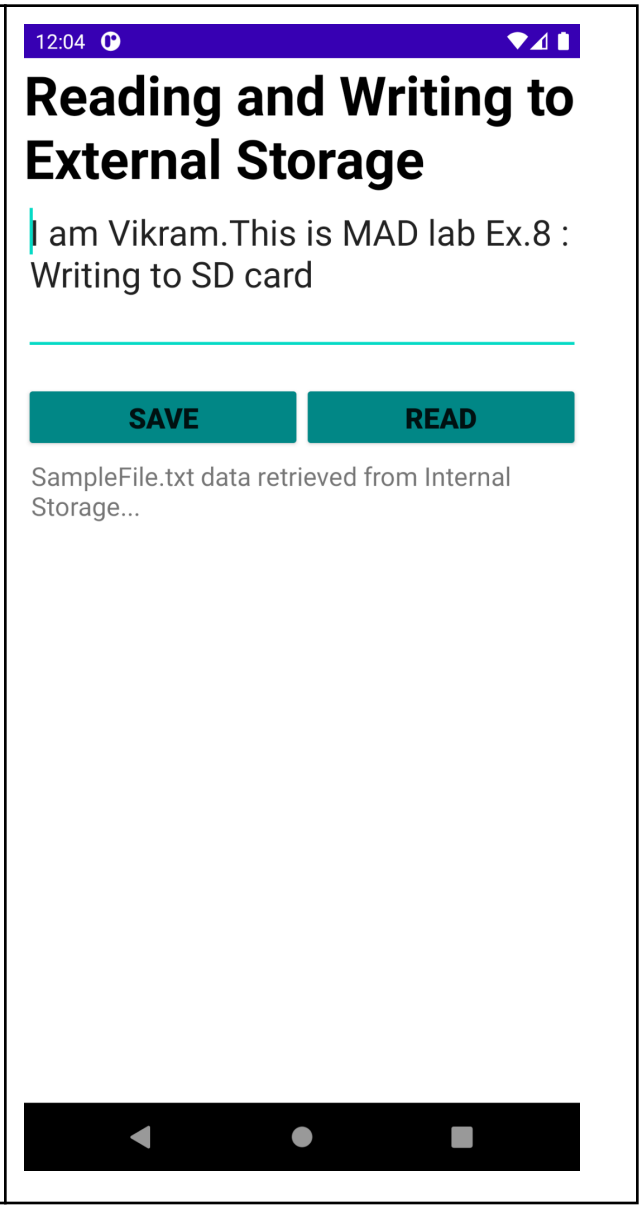
Writing Contents



Saved contents to file in SD card



Read contents from file in SD card



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