## Practical No.11

## Aim: Read and Write a value from External File

**Source Code:**

***AndroidManifest.xml***

```
<uses-permission android:name="android.permission.READ_EXTERNAL_STORAGE"/>
<uses-permission android:name="android.permission.WRITE_EXTERNAL_STORAGE"/>
```

***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">

    <TextView
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:text="@string/message"
        android:textSize="24sp"/>

    <EditText
        android:id="@+id/myInputText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:lines="5"
        android:minLines="3"
        android:gravity="top|left"
        android:inputType="textMultiLine"
        android:autofillHints="">
        <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:text="@string/save"
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            android:layout_weight="0.5"/>

        <Button
            android:id="@+id/getExternalStorage"
            android:text="@string/read"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_weight="0.5"/>
    </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.practical_no_11;

import androidx.appcompat.app.AppCompatActivity;
import android.annotation.SuppressLint;
import android.os.Bundle;
import android.os.Environment;
import android.view.View;
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.FileNotFoundException;
import java.io.FileOutputStream;
import java.io.IOException;
import java.io.InputStreamReader;

public class MainActivity extends AppCompatActivity {

    EditText inpuText;
    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);

        inpuText = findViewById(R.id.myInputText);
        response = findViewById(R.id.response);
```

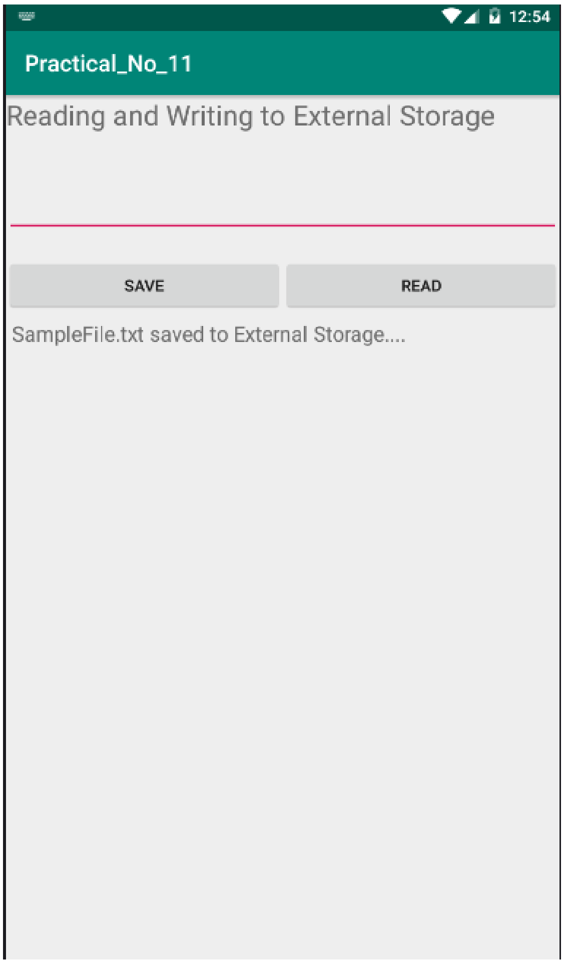
```
saveButton = findViewById(R.id.saveExternalStorage);

saveButton.setOnClickListener(
    new View.OnClickListener() {
      @SuppressLint("SetTextI18n")
      @Override
      public void onClick(View v) {
        try {
          FileOutputStream fos = new FileOutputStream(myExternalFile);
          fos.write(inpuText.getText().toString().getBytes());
          fos.close();
        } catch (IOException e) {
          e.printStackTrace();
        }

        inpuText.setText("");
        response.setText("SampleFile.txt saved to External Storage....");
      }
    }
);

readButton = findViewById(R.id.getExternalStorage);
readButton.setOnClickListener(
    new View.OnClickListener() {
      @SuppressLint("SetTextI18n")
      @Override
      public void onClick(View v) {
        FileInputStream fis = null;
        try {
          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;
          }
        } catch (IOException e) {
          e.printStackTrace();
        }

        inpuText.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 exStorageState=Environment.getExternalStorageState();
        if(Environment.MEDIA_MOUNTED.equals(exStorageState)){
            return true;
        }
        return false;
    }
}
```

***Strings.xml***

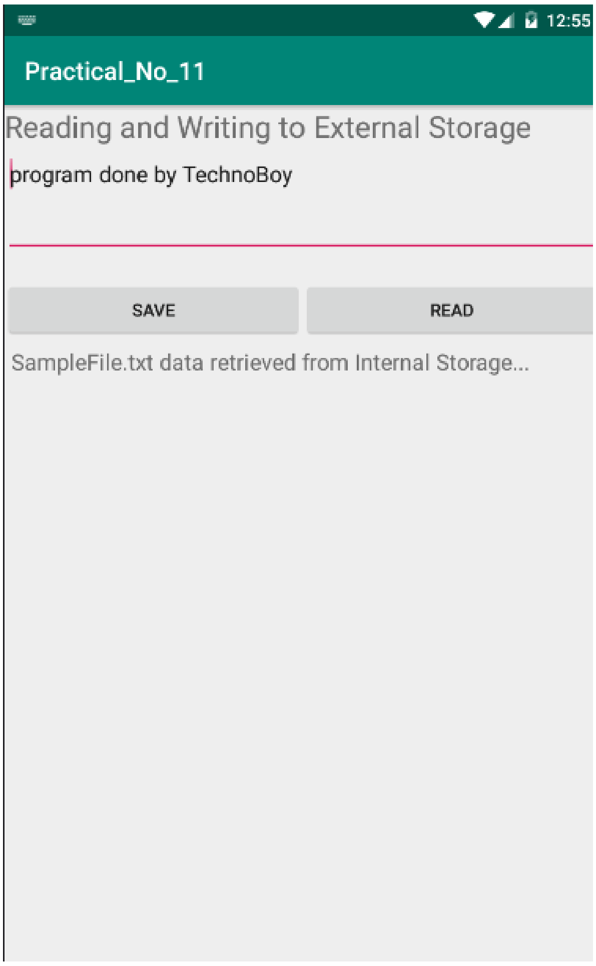
```
<resources>
    <string name="app_name">Practical_No_11</string>
    <string name="message">Reading and Writing to External Storage</string>
    <string name="save">SAVE</string>
    <string name="read">READ</string>
</resources>
```

***Output:***



Reading and Writing to External Storage

SampleFile.txt saved to External Storage....



Reading and Writing to External Storage

program done by TechnoBoy

SampleFile.txt data retrieved from Internal Storage...