

ASSIGNMENT 7

SD Card File I/O

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Learning Objective

Implement an application that writes data to the SD card

XML (activity_main.xml)

```
1 <?xml version="1.0" encoding="utf-8"?>
2 <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
3     xmlns:app="http://schemas.android.com/apk/res-auto"
4     xmlns:tools="http://schemas.android.com/tools"
5     android:layout_width="match_parent"
6     android:layout_height="match_parent"
7     tools:context=".MainActivity"
8     android:orientation="vertical"
9     android:gravity="center_horizontal">
10
11     <TextView
12         android:layout_width="match_parent"
13         android:layout_height="wrap_content"
14         android:fontFamily="@font/roboto"
15         android:text="Enter a file name, read or write to it."
16         android:textSize="25sp"
17         android:layout_margin="20dp"/>
18
19     <EditText
20         android:id="@+id/nameEditText"
21         android:layout_width="match_parent"
22         android:layout_height="wrap_content"
23         android:fontFamily="@font/roboto"
24         android:hint="File Name"
25         android:textSize="20sp"
26         android:layout_margin="20dp">
```

```

27         android:inputType="text"
28         android:maxLines="1"/>
29
30     <EditText
31         android:id="@+id/contentEditText"
32         android:layout_width="match_parent"
33         android:layout_height="wrap_content"
34         android:fontFamily="@font/roboto"
35         android:hint="File Contents"
36         android:textSize="15sp"
37         android:layout_margin="20dp" />
38
39     <LinearLayout
40         android:layout_width="match_parent"
41         android:layout_height="wrap_content"
42         android:layout_margin="20dp"
43         android:gravity="center_horizontal">
44
45         <Button
46             android:id="@+id/readBtn"
47             android:layout_width="wrap_content"
48             android:layout_height="wrap_content"
49             android:fontFamily="@font/roboto"
50             android:text="Read"
51             android:textSize="15sp"
52             android:layout_margin="10dp"/>
53
54         <Button
55             android:id="@+id/writeBtn"
56             android:layout_width="wrap_content"
57             android:layout_height="wrap_content"
58             android:fontFamily="@font/roboto"
59             android:text="Write"
60             android:textSize="15sp"
61             android:layout_margin="10dp"/>
62
63     </LinearLayout>
64
65 </LinearLayout>

```

Java (MainActivity.java)

```
1 package com.madlab.sdcard;
2
3 import androidx.appcompat.app.AppCompatActivity;
4
5 import android.os.Bundle;
6 import android.view.View;
7 import android.widget.Button;
8 import android.widget.EditText;
9 import android.widget.Toast;
10
11 import java.io.BufferedReader;
12 import java.io.File;
13 import java.io.FileNotFoundException;
14 import java.io.FileOutputStream;
15 import java.io.FileReader;
16 import java.io.IOException;
17
18 public class MainActivity extends AppCompatActivity {
19
20     @Override
21     protected void onCreate(Bundle savedInstanceState) {
22         super.onCreate(savedInstanceState);
23         setContentView(R.layout.activity_main);
24
25         final EditText nameEditText = findViewById(R.id.nameEditTxt);
26         final EditText contentEditText = findViewById(R.id.
contentEditTxt);
27         final Button readButton = findViewById(R.id.readBtn);
28         final Button writeButton = findViewById(R.id.writeBtn);
29
30         readButton.setOnClickListener(new View.OnClickListener() {
31             @Override
32             public void onClick(View view) {
33                 String line, content = "";
34
35                 File file = new File(getFilesDir(), nameEditText.
getEditableText().toString());
36                 try {
37                     BufferedReader bufferedReader = new BufferedReader(
new FileReader(file));
38
39                     while ((line = bufferedReader.readLine()) != null)
content += line;
40
41                     contentEditText.setText(content);
42                     Toast.makeText(MainActivity.this, "Contents
successfully read!", Toast.LENGTH_SHORT).show();
43                 } catch (FileNotFoundException e) {
44                     e.printStackTrace();
45                 }
46             }
47         });
48     }
49 }
```

```

45         Toast.makeText(MainActivity.this, "No such file
exists on your SD Card!", Toast.LENGTH_SHORT).show();
46     } catch (IOException e) {
47         e.printStackTrace();
48         Toast.makeText(MainActivity.this, "Error while
reading file!", Toast.LENGTH_SHORT).show();
49     }
50 }
51 });
52
53 writeButton.setOnClickListener(new View.OnClickListener() {
54     @Override
55     public void onClick(View view) {
56         File file = new File(getFilesDir(), nameEditText.
getEditableText().toString());
57         try {
58             FileOutputStream fileOutputStream = new
FileOutputStream(file);
59
60             fileOutputStream.write(contentEditText.
getEditableText().toString().getBytes());
61
62             fileOutputStream.close();
63             Toast.makeText(MainActivity.this, "Contents
successfully written!", Toast.LENGTH_SHORT).show();
64         } catch (FileNotFoundException e) {
65             e.printStackTrace();
66             Toast.makeText(MainActivity.this, "No such file
exists on your SD Card!", Toast.LENGTH_SHORT).show();
67         } catch (IOException e) {
68             e.printStackTrace();
69             Toast.makeText(MainActivity.this, "Error while
writing file!", Toast.LENGTH_SHORT).show();
70         }
71     }
72 });
73 }
74 }

```

App Screenshots



