외부파일 입출력
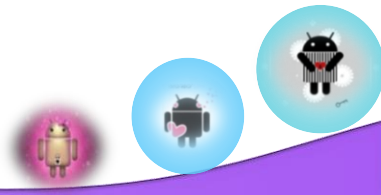
Application name: FileIOtest

Company Domain: admid.example.com

Project location: C:\ Android\ StdWork\ fileiotest

Target Android Devices

- Phone and Tablet

- Minimun SDK API 18

Add an activity to Mobile : Empty Activity

Customize the Activity

Activity Name: MainActivity

Layout Name: activity_main

```xml
activity_main.xml ×

 1    <?xml version="1.0" encoding="utf-8"?>
 2  C <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
 3        android:layout_width="match_parent"
 4        android:layout_height="match_parent"
 5        android:orientation="vertical">
 6        <LinearLayout
 7            android:id="@+id/LinearLayout02"
 8            android:layout_width="match_parent"
 9            android:layout_height="match_parent"
10            android:layout_weight="1">
11            <EditText
12                android:id="@+id/EditText01"
13                android:layout_width="match_parent"
14                android:layout_height="match_parent"
15                android:singleLine="false" />
16        </LinearLayout>
17        <LinearLayout
18            android:id="@+id/LinearLayout03"
19            android:layout_width="wrap_content"
20            android:layout_height="wrap_content">
21            <Button
22                android:id="@+id/read"
23                android:layout_width="wrap_content"
24                android:layout_height="wrap_content"
25                android:text="읽기" />
26            <Button
27                android:id="@+id/write"
28                android:layout_width="wrap_content"
29                android:layout_height="wrap_content"
30                android:text="쓰기" />
31        </LinearLayout>
32 </LinearLayout>
```

화면설계

MainActivity.java ×

```java
1    package com.example.admin.fileiotest;
2
3    import android.os.Bundle;
4    import android.os.Environment;
5    import android.support.v7.app.AppCompatActivity;
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.FileReader;
14   import java.io.FileWriter;
15   import java.io.PrintWriter;
16
17   public class MainActivity extends AppCompatActivity {
```

추후 import 확인

```java
public class MainActivity extends AppCompatActivity {
    EditText edit;
    File file;
    File path;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        path = Environment.getExternalStoragePublicDirectory(
                Environment.DIRECTORY_DOWNLOADS);
        file = new File(path, "test.txt");

        String state = Environment.getExternalStorageState();
        if (state.equals(Environment.MEDIA_MOUNTED) == false) {
            Toast.makeText(getApplicationContext(), "외부 스토리지 실패",
                    Toast.LENGTH_SHORT).show();
        }
        edit = (EditText) findViewById(R.id.EditText01);
        final Button readButton = (Button) findViewById(R.id.read);
        Button writeButton = (Button) findViewById(R.id.write);
```

외부 파일 경로

외부 파일 경로에 문제가 없는가?

MainActivity.java ×

```java
        Button writeButton = (Button) findViewById(R.id.write);

        readButton.setOnClickListener(new View.OnClickListener() {
            public void onClick(View v) {
                try {
                    FileReader in = new FileReader(file);
                    StringBuffer buffer = new StringBuffer();
                    BufferedReader reader = new BufferedReader(in);

                    String str = reader.readLine();
                    while (str != null) {
                        buffer.append(str + "\n");
                        str = reader.readLine();
                    }
                    edit.setText(new String(buffer));
                    reader.close();
                    Toast.makeText(getApplicationContext(), "Read",
                            Toast.LENGTH_LONG).show();
                } catch (Exception e) {
                    e.printStackTrace();
                    Toast.makeText(getApplicationContext(), "Read Field",
                            Toast.LENGTH_LONG).show();
                }
            }
        });
```

읽어온 파일에 내용이 없을 때까지 반복

```
MainActivity.java ×

62
63
64      writeButton.setOnClickListener(new View.OnClickListener() {
65          public void onClick(View v) {
66              try {
67                  FileWriter wr = new FileWriter(file, false);
68                  PrintWriter writer = new PrintWriter(wr);
69                  writer.print(edit.getText().toString());
70                  writer.close();
71                  Toast.makeText(getApplicationContext(), "Write",
72                          Toast.LENGTH_LONG).show();
73              } catch (Exception e) {
74                  e.printStackTrace();
75                  Toast.makeText(getApplicationContext(), "Write Field",
76                          Toast.LENGTH_LONG).show();
77              }
78          }
79      });
80  }
81  }
82
```

에디트 텍스트의 내용을 파일에 출력

FileWriter(file, true) ← "true"명 기존 파일에 추가 허용

```xml
AndroidManifest.xml ×

<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.admin.fileiotest">

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

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="FileIOtest"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <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>
```

외부 저장매체 사용 권한