

## EX 7

### ANDROID MANIFEST

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

    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Ex7"
        tools:targetApi="31">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN"/>

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

### ACTIVITY MAIN

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <EditText
        android:id="@+id/editTextRegNo"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Register Number"/>

    <EditText
        android:id="@+id/editTextName"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/editTextRegNo"
        android:hint="Name"/>

    <EditText
        android:id="@+id/editTextCGPA"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/editTextName"
        android:hint="CGPA"/>

    <Button
        android:id="@+id/buttonSave"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
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        android:layout_below="@id/editTextCGPA"
        android:text="Save"/>

<Button
    android:id="@+id/buttonLoad"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@id/buttonSave"
    android:text="Load"/>

</RelativeLayout>

```

## MAIN ACTIVITY

```

package com.example.ex7

import android.Manifest
import android.content.pm.PackageManager
import android.os.Bundle
import android.os.Environment
import android.widget.Button
import android.widget.EditText
import android.widget.Toast
import androidx.appcompat.app.AppCompatActivity
import java.io.File
import java.io.FileWriter
import java.io.IOException

class MainActivity : AppCompatActivity() {

    private val REQUEST_WRITE_EXTERNAL_STORAGE_PERMISSION = 101

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)

        val editTextRegNo = findViewById<EditText>(R.id.editTextRegNo)
        val editTextName = findViewById<EditText>(R.id.editTextName)
        val editTextCGPA = findViewById<EditText>(R.id.editTextCGPA)
        val buttonSave = findViewById<Button>(R.id.buttonSave)
        val buttonLoad = findViewById<Button>(R.id.buttonLoad)

        buttonSave.setOnClickListener {
            if (checkSelfPermission(Manifest.permission.WRITE_EXTERNAL_STORAGE) !=
                PackageManager.PERMISSION_GRANTED) {
                requestPermissions(arrayOf(Manifest.permission.WRITE_EXTERNAL_STORAGE),
                    REQUEST_WRITE_EXTERNAL_STORAGE_PERMISSION)
            } else {
                saveDataToFile(editTextRegNo.text.toString(),
                    editTextName.text.toString(), editTextCGPA.text.toString())
            }
        }

        buttonLoad.setOnClickListener {
            loadDataFromFile()
        }
    }

    private fun saveDataToFile(regNo: String, name: String, cgpa: String) {
        val directory = Environment.getExternalStorageDirectory()
        val file = File(directory, "student_data.txt")
        try {
            val fileWriter = FileWriter(file, true)

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        fileWriter.append("$regNo, $name, $cgpa\n")
        fileWriter.flush()
        fileWriter.close()
        Toast.makeText(this, "Data saved successfully",
Toast.LENGTH_SHORT).show()
    } catch (e: IOException) {
        e.printStackTrace()
        Toast.makeText(this, "Failed to save data", Toast.LENGTH_SHORT).show()
    }
}

private fun loadDataFromFile() {
    val directory = Environment.getExternalStorageDirectory()
    val file = File(directory, "student_data.txt")
    if (file.exists()) {
        val stringBuilder = StringBuilder()
        file.forEachLine { line ->
            stringBuilder.append(line).append("\n")
        }
        Toast.makeText(this, stringBuilder.toString(),
Toast.LENGTH_LONG).show()
    } else {
        Toast.makeText(this, "File not found", Toast.LENGTH_SHORT).show()
    }
}

override fun onRequestPermissionsResult(requestCode: Int, permissions:
Array<out String>, grantResults: IntArray) {
    super.onRequestPermissionsResult(requestCode, permissions, grantResults)
    if (requestCode == REQUEST_WRITE_EXTERNAL_STORAGE_PERMISSION) {
        if (grantResults.isNotEmpty() && grantResults[0] ==
PackageManager.PERMISSION_GRANTED) {
            Toast.makeText(this, "Permission granted",
Toast.LENGTH_SHORT).show()
        } else {
            Toast.makeText(this, "Permission denied",
Toast.LENGTH_SHORT).show()
        }
    }
}
}

```