**UCS6611 - MOBILE APPLICATION DEVELOPMENT LABORATORY**

**Ex. No. 7 Implement an application that writes data to the SD card**

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**Question:**

Implement an application that writes data to the SD card

**Code:**

**Mainactivity.java:**

package com.example.ex7\_ajay;

import android.content.Intent;

import android.os.Bundle;

import android.os.Environment;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

import java.io.File;

import java.io.FileInputStream;

import java.io.FileOutputStream;

import java.io.OutputStreamWriter;

public class MainActivity extends AppCompatActivity {

    Button readButton, writeButton;

    EditText fileContentText, fileNameText;

    String fileContent, fileName;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity\_main);

        readButton = findViewById(R.id.readButton);

        writeButton = findViewById(R.id.writeButton);

        fileContentText = findViewById(R.id.contentEditText);

        fileNameText = findViewById(R.id.fileNameText);

        readButton.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                Intent readPage = new Intent(MainActivity.this, ReadActivity.class);

                startActivity(readPage);

            }

        });

        writeButton.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                fileContent = fileContentText.getText().toString();

                fileName = fileNameText.getText().toString();

                System.out.println("File name "+fileName);

                System.out.println("File contents: "+fileContent);

                try

                {

                    File myFile = new File("/sdcard/"+fileName);

                    if(!myFile.exists()) {

                        myFile.createNewFile();

                    }

                    FileOutputStream fileOutputStream = new FileOutputStream(myFile);

                    OutputStreamWriter outputStreamWriter = new OutputStreamWriter(fileOutputStream);

                    outputStreamWriter.append(fileContent);

                    outputStreamWriter.close();

                    Toast.makeText(MainActivity.this, "File " +fileName+" written into SD Card!", Toast.LENGTH\_SHORT).show();

                } catch (Exception e) {

                    e.printStackTrace();

                    Toast.makeText(MainActivity.this, "Error: "+e.getMessage(), Toast.LENGTH\_SHORT).show();

                }

            }

        });

    }

}

**readactivity.java:**

package com.example.ex7\_ajay;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.TextView;

import android.widget.Toast;

import java.io.BufferedReader;

import java.io.File;

import java.io.FileInputStream;

import java.io.InputStreamReader;

public class ReadActivity extends AppCompatActivity {

    Button goBackButton, readButton;

    EditText fileNameText;

    String fileName;

    TextView fileContent;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity\_read);

        goBackButton = findViewById(R.id.goBackButton);

        readButton = findViewById(R.id.readFileButton);

        fileNameText = findViewById(R.id.fileEditText);

        fileContent = findViewById(R.id.fileContentTextView);

        goBackButton.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                Intent mainPage = new Intent(ReadActivity.this, MainActivity.class);

                startActivity(mainPage);

            }

        });

        readButton.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                fileName = fileNameText.getText().toString();

                System.out.println("File name: "+fileName);

                File myFile = new File("/sdcard/"+fileName);

                try {

                    FileInputStream fileInputStream = new FileInputStream(myFile);

                    BufferedReader bufferedReader = new BufferedReader(new InputStreamReader(fileInputStream));

                    String dataRow = "";

                    String dataBuffer = "Contents of file \n\n";

                    while((dataRow = bufferedReader.readLine())!=null) {

                        dataBuffer += dataRow+"\n";

                    }

                    Toast.makeText(ReadActivity.this, "File "+fileName+" read from SD Card!", Toast.LENGTH\_SHORT).show();

                    fileContent.setText(dataBuffer);

                    bufferedReader.close();

                    fileInputStream.close();

                } catch (Exception e) {

                    e.printStackTrace();

                    Toast.makeText(ReadActivity.this, "Error: "+e.getMessage(), Toast.LENGTH\_SHORT).show();

                }

            }

        });

    }

}

**activity\_main.xml:**

<?xml version="1.0" encoding="utf-8"?>

<androidx.constraintlayout.widget.ConstraintLayout 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">

    <TextView

        android:id="@+id/contentTextView"

        android:layout\_width="80dp"

        android:layout\_height="34dp"

        android:layout\_marginStart="16dp"

        android:layout\_marginTop="96dp"

        android:text="@string/content\_of\_file"

        android:textAlignment="center"

        app:layout\_constraintStart\_toStartOf="parent"

        app:layout\_constraintTop\_toTopOf="parent" />

    <EditText

        android:id="@+id/contentEditText"

        android:layout\_width="235dp"

        android:layout\_height="86dp"

        android:layout\_marginTop="72dp"

        android:layout\_marginEnd="44dp"

        android:ems="10"

        android:maxLines="15"

        android:inputType="text|textMultiLine"

        app:layout\_constraintEnd\_toEndOf="parent"

        app:layout\_constraintTop\_toTopOf="parent"

        tools:ignore="SpeakableTextPresentCheck" />

    <TextView

        android:id="@+id/fileNameTextView"

        android:layout\_width="wrap\_content"

        android:layout\_height="wrap\_content"

        android:layout\_marginStart="28dp"

        android:layout\_marginTop="172dp"

        android:text="@string/file\_name"

        android:textAlignment="center"

        app:layout\_constraintStart\_toStartOf="parent"

        app:layout\_constraintTop\_toBottomOf="@+id/contentTextView" />

    <EditText

        android:id="@+id/fileNameText"

        android:layout\_width="wrap\_content"

        android:layout\_height="wrap\_content"

        android:layout\_marginTop="132dp"

        android:layout\_marginEnd="56dp"

        android:ems="10"

        android:inputType="textPersonName|text"

        android:minHeight="48dp"

        app:layout\_constraintEnd\_toEndOf="parent"

        app:layout\_constraintTop\_toBottomOf="@+id/contentEditText"

        tools:ignore="SpeakableTextPresentCheck" />

    <Button

        android:id="@+id/writeButton"

        android:layout\_width="wrap\_content"

        android:layout\_height="wrap\_content"

        android:layout\_marginStart="208dp"

        android:layout\_marginTop="96dp"

        android:text="@string/write"

        android:textAllCaps="false"

        app:layout\_constraintEnd\_toEndOf="parent"

        app:layout\_constraintHorizontal\_bias="0.0"

        app:layout\_constraintStart\_toStartOf="parent"

        app:layout\_constraintTop\_toBottomOf="@+id/fileNameText" />

    <Button

        android:id="@+id/readButton"

        android:layout\_width="wrap\_content"

        android:layout\_height="wrap\_content"

        android:layout\_marginTop="68dp"

        android:text="@string/read"

        android:textAllCaps="false"

        app:layout\_constraintEnd\_toEndOf="parent"

        app:layout\_constraintHorizontal\_bias="0.643"

        app:layout\_constraintStart\_toStartOf="parent"

        app:layout\_constraintTop\_toBottomOf="@+id/writeButton" />

</androidx.constraintlayout.widget.ConstraintLayout>

**Activity\_read.xml:**

<?xml version="1.0" encoding="utf-8"?>

<androidx.constraintlayout.widget.ConstraintLayout 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=".ReadActivity">

    <Button

        android:id="@+id/goBackButton"

        android:layout\_width="wrap\_content"

        android:layout\_height="wrap\_content"

        android:layout\_marginTop="88dp"

        android:text="@string/go\_back"

        android:textAllCaps="false"

        app:layout\_constraintEnd\_toEndOf="parent"

        app:layout\_constraintHorizontal\_bias="0.777"

        app:layout\_constraintStart\_toStartOf="parent"

        app:layout\_constraintTop\_toBottomOf="@+id/fileContentTextView" />

    <TextView

        android:id="@+id/fileNameTextView"

        android:layout\_width="wrap\_content"

        android:layout\_height="wrap\_content"

        android:layout\_marginStart="44dp"

        android:layout\_marginTop="88dp"

        android:text="@string/file\_name"

        app:layout\_constraintStart\_toStartOf="parent"

        app:layout\_constraintTop\_toTopOf="parent" />

    <EditText

        android:id="@+id/fileEditText"

        android:layout\_width="wrap\_content"

        android:layout\_height="wrap\_content"

        android:layout\_marginTop="72dp"

        android:layout\_marginEnd="32dp"

        android:ems="10"

        android:inputType="textPersonName|text"

        app:layout\_constraintEnd\_toEndOf="parent"

        app:layout\_constraintTop\_toTopOf="parent" />

    <TextView

        android:id="@+id/fileContentTextView"

        android:layout\_width="306dp"

        android:layout\_height="197dp"

        android:layout\_marginTop="76dp"

        android:textColor="@color/black"

        app:layout\_constraintEnd\_toEndOf="parent"

        app:layout\_constraintStart\_toStartOf="parent"

        app:layout\_constraintTop\_toBottomOf="@+id/readFileButton" />

    <Button

        android:id="@+id/readFileButton"

        android:layout\_width="wrap\_content"

        android:layout\_height="wrap\_content"

        android:layout\_marginTop="60dp"

        android:layout\_marginEnd="72dp"

        android:text="Enter"

        android:textAllCaps="false"

        app:layout\_constraintEnd\_toEndOf="parent"

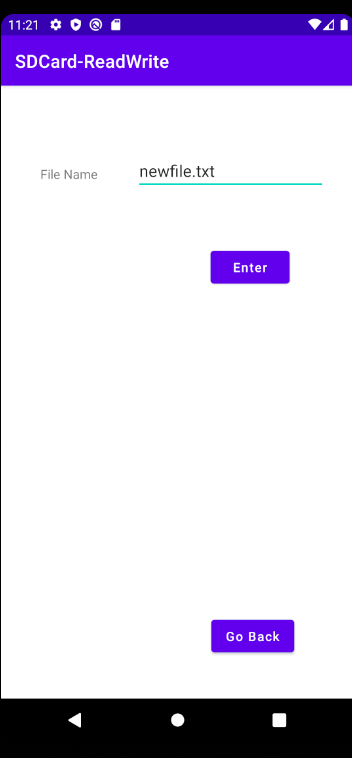
        app:layout\_constraintHorizontal\_bias="1.0"

        app:layout\_constraintStart\_toStartOf="parent"

        app:layout\_constraintTop\_toBottomOf="@+id/fileEditText" />

</androidx.constraintlayout.widget.ConstraintLayout>

**Outputs:**

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