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:

```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() {
```

```java
        @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:

```java
package com.example.ex7_ajay;

import androidx.appcompat.app.AppCompatActivity;
```

```java
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 {
```

```java
                    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
<?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"
```

```xml
        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" />
```

```xml
    <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
<?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" />
```

```xml
<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: