Program No:	**17**
Roll No :	**1545**
Title of Program :	**FileOutputStream and FileInputStream.**
Objective :	**Create an application that will write data to a file and read data from the file.**

FileInputStream
This class reads the data from a specific file (byte by byte). It is usually used to read the contents of a file with raw bytes, such as images.
To read the contents of a file using this class −
First of all, you need to instantiate this class by passing a String variable or a File object, representing the path of the file to be read.

FileOutputStream
This writes data into a specific file or file descriptor (byte by byte). It is usually used to write the contents of a file with raw bytes, such as images.
To write the contents of a file using this class −
First of all, you need to instantiate this class by passing a String variable or a File object, representing the path of the file to be read.

Source Code:

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:id="@+id/main"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   android:padding="16dp"
   tools:context=".MainActivity">

   <TextView
       android:id="@+id/textView2"
       android:layout_width="0dp"
       android:layout_height="wrap_content"
       android:layout_marginTop="16dp"
       android:text="  File Content "
       android:textAlignment="center"
       android:textColor="@android:color/black"
```

```
        android:textSize="24sp"
        android:textStyle="bold"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/linearLayout" />

    <LinearLayout
        android:id="@+id/linearLayout"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_marginTop="16dp"
        android:orientation="horizontal"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/userInput">

        <Button
            android:id="@+id/write_button"
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            android:layout_marginEnd="8dp"
            android:layout_weight="1"
            android:text="Write" />

        <Button
            android:id="@+id/read_button"
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            android:layout_marginStart="8dp"
            android:layout_weight="1"
            android:text="Read" />
    </LinearLayout>

    <EditText
        android:id="@+id/userInput"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_marginTop="16dp"
        android:ems="10"
        android:hint="Enter text here"
        android:inputType="textPersonName"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <TextView
        android:id="@+id/content"
        android:layout_width="0dp"
        android:layout_height="0dp"
        android:layout_marginTop="8dp"
        android:background="@android:drawable/editbox_background"
```

```
        android:gravity="top|start"
        android:padding="8dp"
        android:textAlignment="center"
        android:textColor="@android:color/black"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView2" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

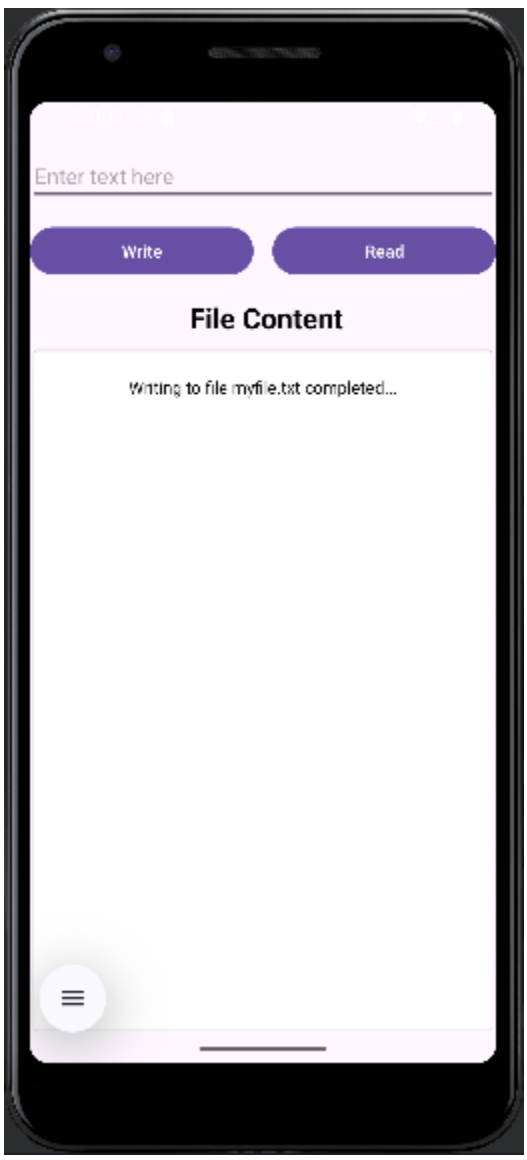
MainActivity.java

```
package com.example.internalstorage;

import android.content.Context;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

import java.io.FileInputStream;
import java.io.FileOutputStream;
import java.io.IOException;

public class MainActivity extends AppCompatActivity implements
View.OnClickListener {

    // declare the variables
    Button read, write;
    EditText userInput;
    TextView fileContent;
    String filename = "myfile.txt";  // Define your filename here

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        // Handle system bars (optional)
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v,
insets) -> {
            Insets systemBars =
insets.getInsets(WindowInsetsCompat.Type.systemBars());
```

```
            v.setPadding(systemBars.left, systemBars.top, systemBars.right,
systemBars.bottom);
            return insets;
        });

        // Initialize the UI components
        read = findViewById(R.id.read_button);
        write = findViewById(R.id.write_button);
        userInput = findViewById(R.id.userInput);
        fileContent = findViewById(R.id.content);

        // Set click listeners
        read.setOnClickListener(this);
        write.setOnClickListener(this);
    }

    @Override
    public void onClick(View view) {
        Button b = (Button) view;

        // Get the button text: either 'read' or 'write' depending on the button
pressed
        String b_text = b.getText().toString();

        switch (b_text.toLowerCase()) {
            case "write": {
                writeData();
                break;
            }
            case "read": {
                readData();
                break;
            }
        }
    }

    private void writeData() {
        try {
            // Write the input text to the file
            FileOutputStream fos = openFileOutput(filename, Context.MODE_PRIVATE);
            String data = userInput.getText().toString();
            fos.write(data.getBytes());
            fos.flush();
            fos.close();
        } catch (IOException e) {
            e.printStackTrace();
        }

        userInput.setText("");  // Clear the input field
        printMessage("Writing to file " + filename + " completed...");
    }
```

```
    private void readData() {
        try {
            // Read the content of the file
            FileInputStream fin = openFileInput(filename);
            int a;
            StringBuilder temp = new StringBuilder();
            while ((a = fin.read()) != -1) {
                temp.append((char) a);
            }

            // Set the file content to the TextView
            fileContent.setText(temp.toString());
            fin.close();
        } catch (IOException e) {
            e.printStackTrace();
        }
        printMessage("Reading from file " + filename + " completed...");
    }

    // A simple method to print messages to the fileContent TextView
    private void printMessage(String message) {
        fileContent.append("\n" + message);
    }
}
```

Output:


Enter text here
Write
Read
File Content
Writing to file myfile.txt completed...


Enter text here
Write
Read
File Content
Hello world
Reading from file myfile.txt completed...