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EXPERIMENT 15

WORKING WITH FILES

AIM: To create an application that will write data to a file, read data from the file and delete the file.

THEORY:

Android provides many kinds of storage for applications to store their data. These storage places are shared preferences, internal and external storage, SQLite storage, and storage via network connection.

In this chapter we are going to look at the internal storage. Internal storage is the storage of the private data on the device memory.

By default these files are private and are accessed by only your application and get deleted , when user delete your application.

Writing File

In order to use internal storage to write some data in the file, call the openFileOutput() method with the name of the file and the mode. Its syntax is given below–

```
FileOutputStream fOut = openFileOutput("file name here",MODE_WORLD_READABLE);
```

The method openFileOutput() returns an instance of FileOutputStream. So you receive it in the object of FileInputStream. After that you can call write method to write data on the file. Its syntax is given below –

```
String str = "data";
fOut.write(str.getBytes());
fOut.close();
```

Reading File

In order to read from the file you just created , call the openFileInput() method with the name of the file. It returns an instance of FileInputStream. Its syntax is given below –

```
FileInputStream fin = openFileInput(file);
```

After that, you can call read method to read one character at a time from the file and then you can print it. Its syntax is given below –

```
int c;
String temp="";
while( (c = fin.read()) != -1){
   temp = temp + Character.toString((char)c);
```

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```
}

//string temp contains all the data of the file.
fin.close();
```

Delete File

To delete a file you call the below method.

deleteFile( ) – This method will delete the particular file.

ASSIGNMENT

1. Write a program to create a file in a directory and perform following file operation.
    a) Write into a file
    b) Read from a file
    c) Delete a file

CODE

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="File"
        android:textSize="30dp"
        android:textStyle="bold"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="10dp"
        android:id="@+id/textV1"/>
    <EditText
        android:layout_width="200dp"
        android:layout_height="wrap_content"
        android:textSize="30dp"
        android:textStyle="bold"
        android:layout_below="@+id/textV1"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="10dp"
        android:id="@+id/editFile"
```

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```
        />
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Read"
        android:textSize="30dp"
        android:textStyle="bold"
        android:layout_marginLeft="40dp"
        android:layout_below="@+id/editFile"
        android:layout_marginTop="10dp"
        android:id="@+id/btnRead"
        />
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Write"
        android:textSize="30dp"
        android:textStyle="bold"
        android:layout_marginLeft="205dp"
        android:layout_below="@+id/editFile"
        android:layout_marginTop="10dp"
        android:id="@+id/btnWrite"
        />
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Delete"
        android:textSize="30dp"
        android:textStyle="bold"
        android:layout_centerHorizontal="true"
        android:layout_below="@+id/btnRead"
        android:layout_marginTop="10dp"
        android:id="@+id/btnDelete"
        />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text=""
        android:textSize="30dp"
        android:textStyle="bold"
        android:layout_centerHorizontal="true"
        android:layout_below="@+id/btnDelete"
        android:layout_marginTop="10dp"
        android:id="@+id/textDisplay"/>
</RelativeLayout>
```

MainActivity.java

```
package com.example.mca1634.file;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
```

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```
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;
import java.io.File;
import java.io.FileInputStream;
import java.io.FileNotFoundException;
import java.io.FileOutputStream;
import java.io.IOException;
public class MainActivity extends AppCompatActivity {
     EditText editFile;
     Button btnRead,btnWrite,btnDelete;
     TextView textDisplay;
     String filename="file.txt";
     String Message;
     @Override
     protected void onCreate(Bundle savedInstanceState) {
          super.onCreate(savedInstanceState);
          setContentView(R.layout.activity_main);
          editFile=(EditText)findViewById(R.id.editFile);
          btnRead=(Button)findViewById(R.id.btnRead);
          btnWrite=(Button)findViewById(R.id.btnWrite);
          btnDelete=(Button)findViewById(R.id.btnDelete);
          textDisplay=(TextView)findViewById(R.id.textDisplay);
          btnWrite.setOnClickListener(new View.OnClickListener() {
               @Override
               public void onClick(View v) {
                    Message=editFile.getText().toString();
                    try {
                         FileOutputStream fos=openFileOutput(filename,MODE_PRIVATE);
                         fos.write(Message.getBytes());
                         Toast.makeText(getApplicationContext(), "File Write",
Toast.LENGTH_SHORT).show();
                    } catch (FileNotFoundException e) {
                         e.printStackTrace();
                    } catch (IOException e) {
                         e.printStackTrace();
                    }
               }
          });
          btnRead.setOnClickListener(new View.OnClickListener() {
               @Override
               public void onClick(View v) {
                    try {
                         FileInputStream fis=openFileInput(filename);
                         int c;
                         String temp="";
                         while((c = fis.read()) != -1)
                         {
                              temp=temp + Character.toString((char)c);
                         }
                         textDisplay.setText(temp);
                         Toast.makeText(getApplicationContext(), "File Read",
Toast.LENGTH_SHORT).show();
                    } catch (FileNotFoundException e) {
```

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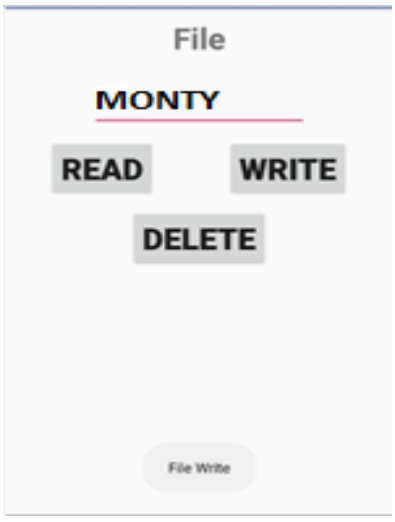
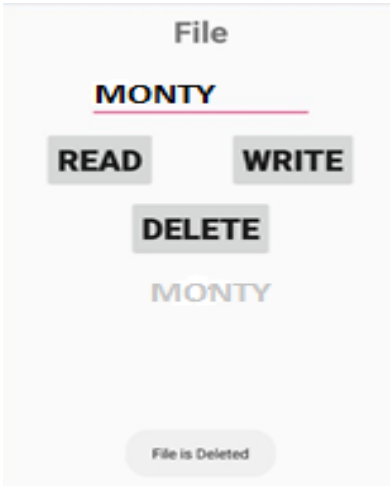
```
                    e.printStackTrace();
                } catch (IOException e) {
                    e.printStackTrace();
                }
            }
        });
        btnDelete.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                File file=new File(getFilesDir(),filename);
                if(file.exists())
                {
                    deleteFile(filename);
                    Toast.makeText(getApplicationContext(), "File is Deleted",
Toast.LENGTH_SHORT).show();
                }
                else
                {
                    Toast.makeText(getApplicationContext(), "File is not
Available", Toast.LENGTH_SHORT).show();
                }
            }
        });
    }
}
```

OUTPUT





CONCLUSION: Successfully Executed File Apllication.