Lab 18: Android Internal Storage using Kotlin

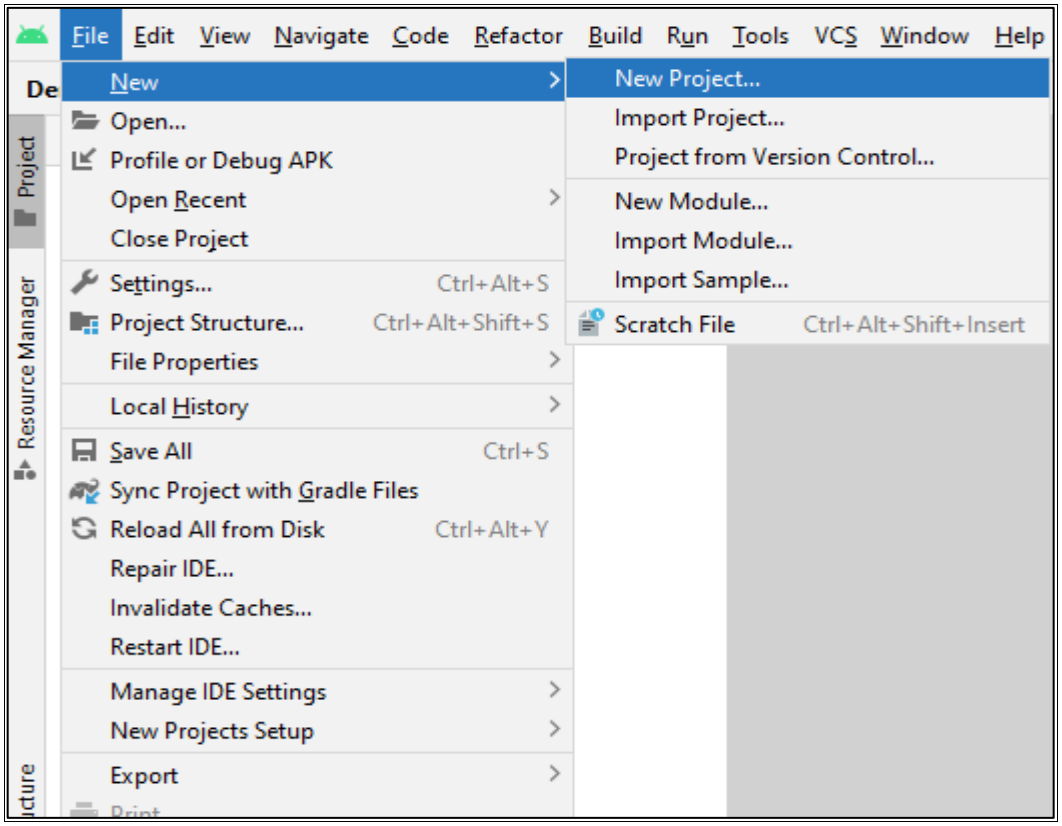
Introduction

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.

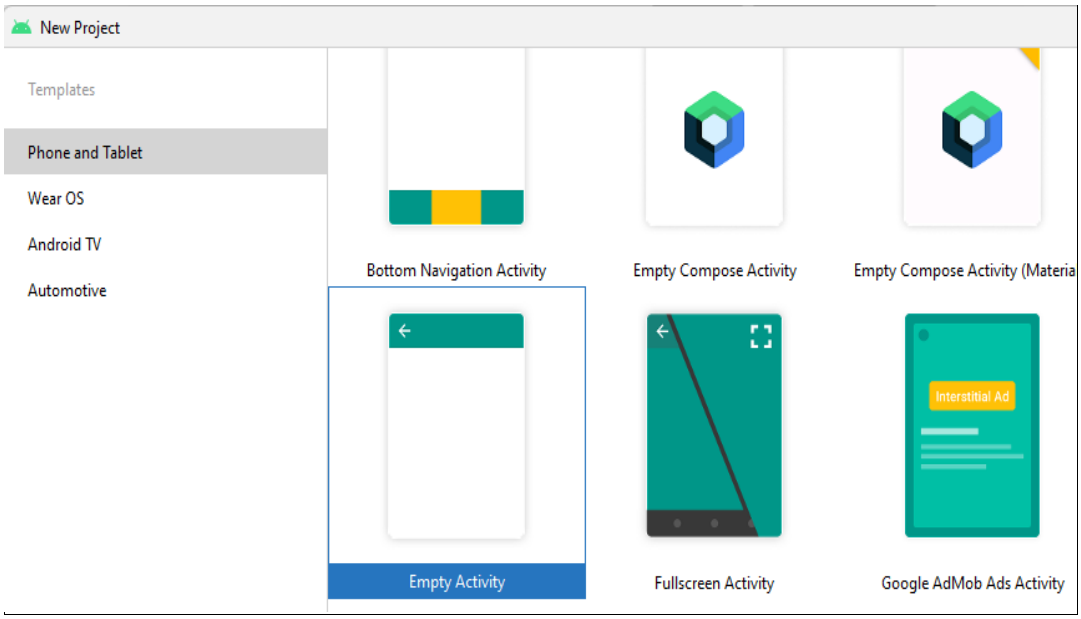
- **Write into File (FileOutputStream)**
- **Read from File (FileInputStream)**

Let's get Started:

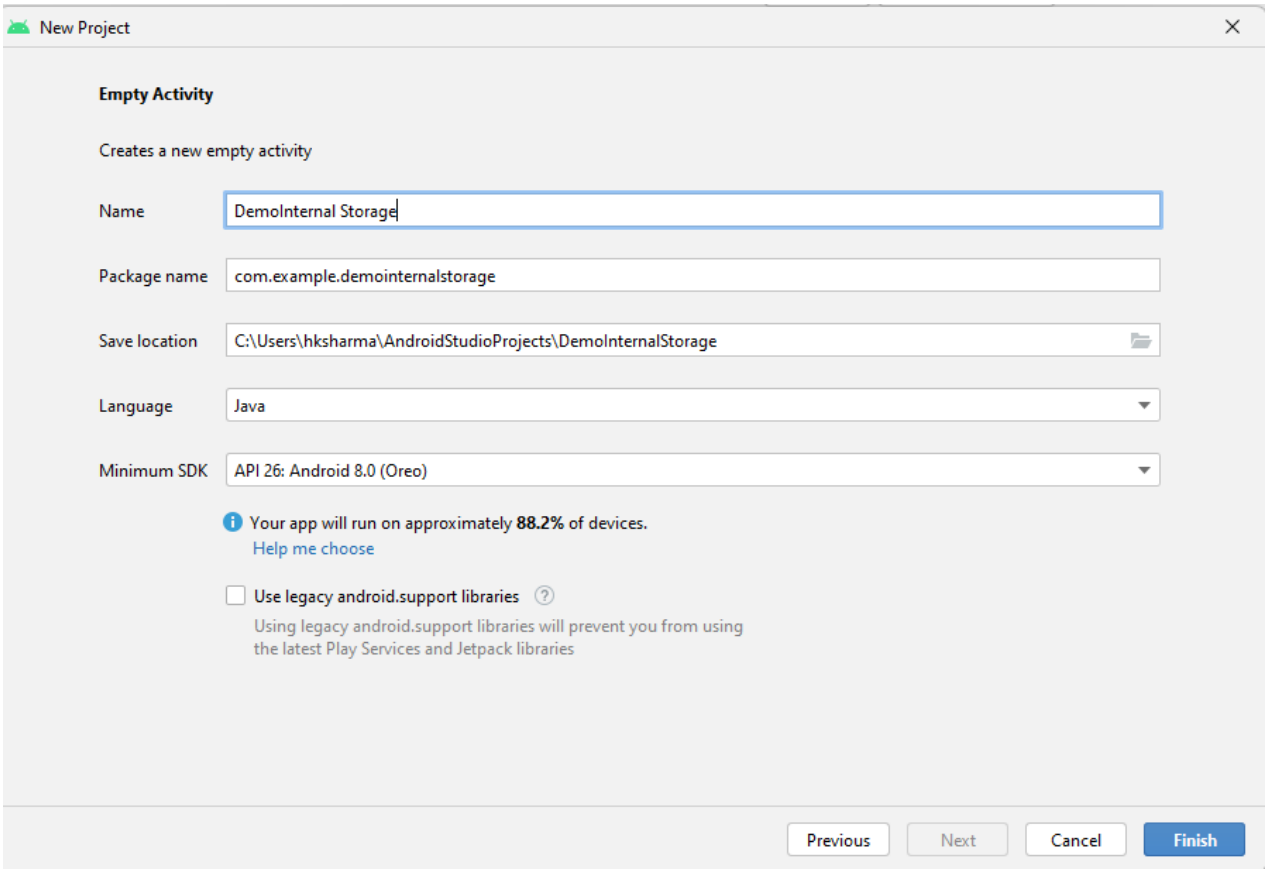
Step 1: Create a New Project in Android Studio as shown below



Step 2: Select Empty Activity as shown below



Step 3: Provide a Project Name as shown below



Step 4: Update MainActivity.kt as per the code given below

```
package com.example.demointernakotlin
import android.content.Context
//import android.support.v7.app.AppCompatActivity
import android.os.Bundle
import android.view.View
import android.widget.Button
import android.widget.EditText
import android.widget.Toast
import androidx.appcompat.app.AppCompatActivity
import java.io.*


class MainActivity : AppCompatActivity() {

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

        val fileName = findViewById<EditText>(R.id.editFile)
        val fileData = findViewById<EditText>(R.id.editData)

        val btnSave = findViewById<Button>(R.id.btnSave)
        val btnView = findViewById<Button>(R.id.btnView)

        btnSave.setOnClickListener(View.OnClickListener {
            val file:String = fileName.text.toString()
            val data:String = fileData.text.toString()
            val fileOutputStream:FileOutputStream
            try {
                fileOutputStream = openFileOutput(file, Context.MODE_PRIVATE)
                fileOutputStream.write(data.toByteArray())
            } catch (e: FileNotFoundException){
                e.printStackTrace()
            }catch (e: NumberFormatException){
                e.printStackTrace()
            }catch (e: IOException){
                e.printStackTrace()
            }catch (e: Exception){
                e.printStackTrace()
            }
            Toast.makeText(applicationContext,"data
save",Toast.LENGTH_LONG).show()
            fileName.text.clear()
            fileData.text.clear()
        })

        btnView.setOnClickListener(View.OnClickListener {
            val filename = fileName.text.toString()
            if(filename.toString()!=null && filename.toString().trim()!=""){
                var fileInputStream: FileInputStream? = null
                fileInputStream = openFileInput(filename)
                var inputStreamReader: InputStreamReader =
```

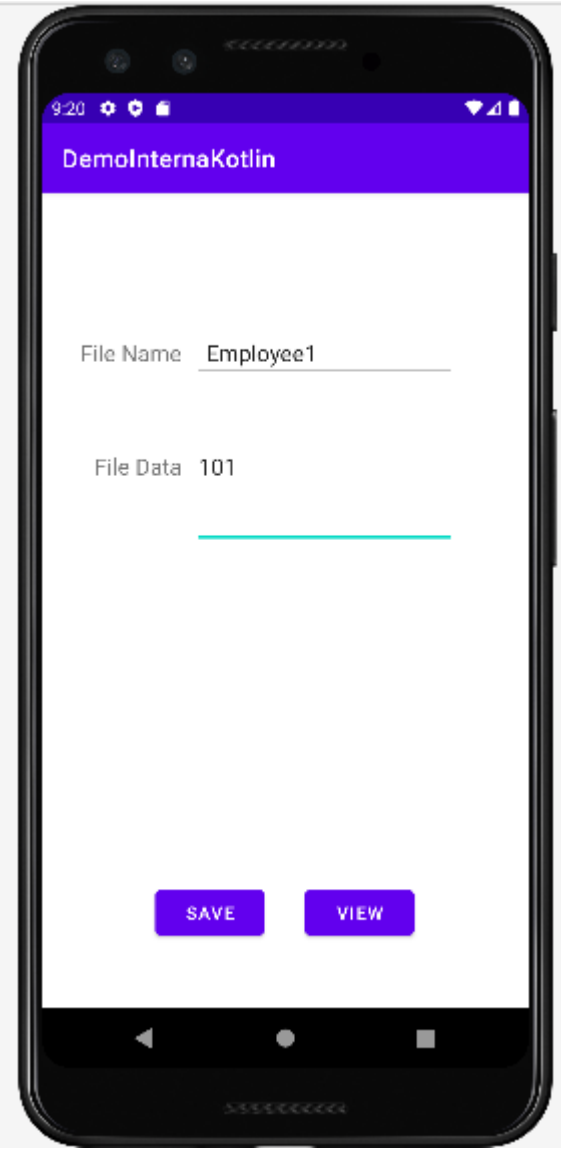
```
InputStreamReader(fileInputStream)
                val bufferedReader: BufferedReader =
BufferedReader(inputStreamReader)
                val stringBuilder: StringBuilder = StringBuilder()
                var text: String? = null
                while ({ text = bufferedReader.readLine(); text }() != null) {
                    stringBuilder.append(text)
                }
                //Displaying data on EditText
                fileData.setText(stringBuilder.toString()).toString()
            }else{
                Toast.makeText(applicationContext,"file name cannot be
blank",Toast.LENGTH_LONG).show()
            }
        })

    }
}
```

Step 5: Update activity_main.xml for Relative Layout as per the code given below

```
<?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="example.javatpoint.com.kotlininternalstoragereadwrite.MainActiv
ity">

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentLeft="true"
        android:layout_alignParentStart="true"
        android:layout_alignParentTop="true"
        android:layout_marginLeft="31dp"
        android:layout_marginStart="31dp"
        android:layout_marginTop="117dp"
        android:text="File Name"
        android:textAppearance="@style/Base.TextAppearance.AppCompat.Medium"/>

    <EditText
        android:id="@+id/editFile"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignBaseline="@+id/textView"
        android:layout_alignBottom="@+id/textView"
        android:layout_alignLeft="@+id/btnSave"
        android:layout_alignStart="@+id/btnSave"
        android:layout_marginLeft="31dp"
        android:layout_marginStart="31dp"
        android:ems="10"
        android:paddingLeft="10dp"
```

```
        android:inputType="textPersonName"
        android:hint="file name" />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignEnd="@+id/textView"
        android:layout_alignRight="@+id/textView"
        android:layout_below="@+id/textView"
        android:layout_marginTop="67dp"
        android:text="File Data"
        android:textAppearance="@style/Base.TextAppearance.AppCompat.Medium"/>

    <EditText
        android:id="@+id/editData"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignBaseline="@+id/textView2"
        android:layout_alignBottom="@+id/textView2"
        android:layout_alignLeft="@+id/editFile"
        android:layout_alignStart="@+id/editFile"
        android:ems="10"
        android:lines="5"
        android:hint="data" />

    <Button
        android:id="@+id/btnSave"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/textView2"
        android:layout_alignParentBottom="true"
        android:layout_alignStart="@+id/textView2"
        android:layout_marginBottom="53dp"
        android:layout_marginLeft="49dp"
        android:layout_marginStart="49dp"
        android:text="Save" />

    <Button
        android:id="@+id/btnView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignEnd="@+id/editData"
        android:layout_alignRight="@+id/editData"
        android:layout_alignTop="@+id/btnSave"
        android:layout_marginEnd="33dp"
        android:layout_marginRight="33dp"
        android:text="View" />
</RelativeLayout>
```

Step 6: Check Output on Android Emulator and it should look like as given below



Voila!! We have successfully completed this lab.