**EXPERIMENT-4 ANDROID FRAGMENTS**

**AIM:**

To Develop an android application to create Two activity named as Student Basic Details (name, age, address) and Student Mark (Marks, Total, Grade, Status). Write an android code to combine these two activities in single screen using android fragment.

**PROCEDURE:**

* Go to File → New Project. f
* Provide the Application Name and click Next.
* Select the Target Android Devices.
* Choose the Minimum SDK required.
* Choose the activity (Blank Activity by default).
* Enter the Activity Name.
* Click Finish.
* Edit the program (design layout and write Kotlin code).
* Run the Application in 2 ways:
  1. Using an Emulator.
  2. Using a Real Mobile Device (via USB debugging).

**PROGRAM:**

## **AndroidManifest.xml :**

<manifest xmlns:android="http://schemas.android.com/apk/res/android"

package="com.example.studenttabs">

<application

android:allowBackup="true"

android:theme="@style/Theme.StudentTabs"

android:label="@string/app\_name">

<activity android:name=".MainActivity"

android:exported="true">

<intent-filter>

<action android:name="android.intent.action.MAIN"/>

<category android:name="android.intent.category.LAUNCHER"/>

</intent-filter>

</activity>

</application>

</manifest>

**Activity\_main.xml:**

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"

xmlns:app="http://schemas.android.com/apk/res-auto"

android:orientation="vertical"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent">

<com.google.android.material.tabs.TabLayout

android:id="@+id/tabLayout"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

app:tabMode="fixed"/>

<androidx.viewpager2.widget.ViewPager2

android:id="@+id/viewPager"

android:layout\_width="match\_parent"

android:layout\_height="0dp"

android:layout\_weight="1"/>

</LinearLayout>

**MainActivity.kt :**

package com.example.studenttabs

import android.os.Bundle

import androidx.appcompat.app.AppCompatActivity

import com.google.android.material.tabs.TabLayoutMediator

import androidx.viewpager2.widget.ViewPager2

class MainActivity : AppCompatActivity() {

private lateinit var viewPager: ViewPager2

private lateinit var adapter: StudentPagerAdapter

override fun onCreate(savedInstanceState: Bundle?) {

super.onCreate(savedInstanceState)

setContentView(R.layout.activity\_main)

viewPager = findViewById(R.id.viewPager)

adapter = StudentPagerAdapter(this)

viewPager.adapter = adapter

val tabLayout = findViewById<com.google.android.material.tabs.TabLayout>(R.id.tabLayout)

TabLayoutMediator(tabLayout, viewPager) { tab, position ->

tab.text = when (position) {

0 -> "Basic Details"

1 -> "Marks"

else -> ""

}

}.attach()

}

}

**StudentPagerAdapter.kt :**

package com.example.studenttabs

import androidx.fragment.app.Fragment

import androidx.fragment.app.FragmentActivity

import androidx.viewpager2.adapter.FragmentStateAdapter

class StudentPagerAdapter(fragmentActivity: FragmentActivity) : FragmentStateAdapter(fragmentActivity) {

override fun getItemCount(): Int = 2

override fun createFragment(position: Int): Fragment {

return when (position) {

0 -> StudentBasicDetailsFragment()

1 -> StudentMarkFragment()

else -> throw IllegalStateException("Invalid position")

}

}

}

**StudentBasicDetailsFragment.kt :**

package com.example.studenttabs

import android.os.Bundle

import android.view.LayoutInflater

import android.view.View

import android.view.ViewGroup

import androidx.fragment.app.Fragment

class StudentBasicDetailsFragment : Fragment() {

override fun onCreateView(inflater: LayoutInflater, container: ViewGroup?, savedInstanceState: Bundle?): View? {

return inflater.inflate(R.layout.fragment\_student\_basic\_details, container, false)

}

}

**StudentMarkFragment.kt :**

package com.example.studenttabs

import android.os.Bundle

import android.view.LayoutInflater

import android.view.View

import android.view.ViewGroup

import androidx.fragment.app.Fragment

class StudentMarkFragment : Fragment() {

override fun onCreateView(inflater: LayoutInflater, container: ViewGroup?, savedInstanceState: Bundle?): View? {

return inflater.inflate(R.layout.fragment\_student\_mark, container, false)

}

}

**fragment\_student\_basic\_details.xml :**

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"

android:orientation="vertical"

android:padding="16dp"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content">

<EditText android:hint="Enter Name" android:layout\_width="match\_parent" android:layout\_height="wrap\_content"/>

<EditText android:hint="Enter Age" android:layout\_width="match\_parent" android:layout\_height="wrap\_content"/>

<EditText android:hint="Enter Address" android:layout\_width="match\_parent" android:layout\_height="wrap\_content"/>

</LinearLayout>

**fragment\_student\_mark.xml :**

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"

android:orientation="vertical"

android:padding="16dp"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content">

<EditText android:hint="Enter Marks" android:layout\_width="match\_parent" android:layout\_height="wrap\_content"/>

<EditText android:hint="Enter Total" android:layout\_width="match\_parent" android:layout\_height="wrap\_content"/>

<EditText android:hint="Enter Grade" android:layout\_width="match\_parent" android:layout\_height="wrap\_content"/>

<EditText android:hint="Enter Status" android:layout\_width="match\_parent" android:layout\_height="wrap\_content"/>

</LinearLayout>