Ex. No. : 04 **Date: 010.02.2025**

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Android Fragments

Aim

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:

Step 1 : File -> NewProject

Provide the application name and Click “Next”

Step 2 : Select the target android devices

Select the minimum SDK to run the application. Click “Next”. **Step 3 :** Choose the activity for the application (By default choose “Blank Activity). Click “Next”.

Step 4 : Enter activity name and click "Finish".

Step 5 : Edit the program.

Step 6 : Run the application, 2-ways to run the application.

1. Running through emulator
2. Running through mobile device

AndroidManifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
 xmlns:tools="http://schemas.android.com/tools">

 <application
 android:allowBackup="true"
 android:dataExtractionRules="@xml/data_extraction_rules"
 android:fullBackupContent="@xml/backup_rules"
 android:icon="@mipmap/ic_launcher"
 android:label="@string/app_name"
 android:roundIcon="@mipmap/ic_launcher_round"
 android:supportsRtl="true"
 android:theme="@style/Theme.Ex4"
 tools:targetApi="31">
 <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

```
<?xml version="1.0"

encoding="utf-8"?>

<LinearLayout

xmlns:android="http://sche

mas.android.com/apk/res/a

ndroid"


 android:orientation="vertical"
```

```
android:layout_width="mat
ch_parent"

android:layout_height="ma
tch_parent">

 <FrameLayout

android:id="@+id/basicDeta
ilsContainer"

android:layout_width="mat
ch_parent"

android:layout_height="0d
p"

android:layout_weight="1"
/>

 <FrameLayout

android:id="@+id/markDet
ailsContainer"

android:layout_width="mat
ch_parent"

android:layout_height="0dp"
```

```
android:layout_weight="1"  />

    </LinearLayout>
```

fragment_student_basic_details.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout

xmlns:android="http://schemas.android.c
om/apk/res/android"
 android:orientation="vertical"
 android:padding="16dp"
 android:layout_width="match_parent"

android:layout_height="wrap_content">

 <EditText
 android:id="@+id/etName"
 android:hint="Enter Name"

android:layout_width="match_parent"

android:layout_height="wrap_content"/>

 <EditText
 android:id="@+id/etAge"
 android:hint="Enter Age"

android:layout_width="match_parent"
```

```
android:layout_height="wrap_content"/>

 <EditText
 android:id="@+id/etAddress"
 android:hint="Enter Address"

android:layout_width="match_parent"

android:layout_height="wrap_content"/>
</LinearLayout>
```

fragment_student_mark.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout

xmlns:android="http://schemas.android.c
om/apk/res/android"
 android:orientation="vertical"
 android:padding="16dp"
 android:layout_width="match_parent"

android:layout_height="wrap_content">

 <EditText
 android:id="@+id/etMarks"
 android:hint="Enter Marks"

android:layout_width="match_parent"
```

```
android:layout_height="wrap_content"/>

 <EditText
 android:id="@+id/etTotal"
 android:hint="Enter Total"

android:layout_width="match_parent"

android:layout_height="wrap_content"/>

 <EditText
 android:id="@+id/etGrade"
 android:hint="Enter Grade"

android:layout_width="match_parent"

android:layout_height="wrap_content"/>

 <EditText
 android:id="@+id/etStatus"
 android:hint="Enter Status"

android:layout_width="match_parent"

android:layout_height="wrap_content"/>
</LinearLayout>
```

MainActivity.kt

```
 package com.example.ex4

import android.os.Bundle
import
androidx.appcompat.app.A
ppCompatActivity
import
androidx.fragment.app.Fra
gmentManager
import
androidx.fragment.app.Fra
gmentTransaction

class MainActivity :
AppCompatActivity() {
 override fun
onCreate(savedInstanceSta
te: Bundle?) {

super.onCreate(savedInsta
nceState)

setContentView(R.layout.a
ctivity_main)

 val fragmentManager:
FragmentManager =
supportFragmentManager
 val
fragmentTransaction:
```

```
FragmentTransaction =
fragmentManager.beginTr
ansaction()


fragmentTransaction.repla
ce(R.id.basicDetailsContain
er,
StudentBasicDetailsFragm
ent())

fragmentTransaction.repla
ce(R.id.markDetailsContai
ner,
StudentMarkFragment())


fragmentTransaction.com
mit()
 }
}
```

StudentBasicDetailsFragment.kt

```
package
com.example.ex4

import
android.os.Bundle
import
androidx.fragment.app.F
ragment
import
```

```
android.view.LayoutInflater
import
android.view.View
import
android.view.ViewGroup

// TODO: Rename
parameter arguments,
choose names that match
// the fragment
initialization
parameters, e.g.
ARG_ITEM_NUMBER
private const val
ARG_PARAM1 =
"param1"
private const val
ARG_PARAM2 =
"param2"

/**
 * A simple [Fragment]
subclass.
 * Use the
[fragment_student_basic
_details.newInstance]
factory method to
 * create an instance of
this fragment.
```

```
 */
class
fragment_student_basic_
details : Fragment() {
 // TODO: Rename and
change types of
parameters
 private var param1:
String? = null
 private var param2:
String? = null

 override fun
onCreate(savedInstance
State: Bundle?) {

super.onCreate(savedIns
tanceState)
 arguments?.let {
 param1 =
it.getString(ARG_PARA
M1)
 param2 =
it.getString(ARG_PARA
M2)
 }
 }

 override fun
onCreateView(
```

```
inflater:
LayoutInflater,
container: ViewGroup?,
 savedInstanceState:
Bundle?
 ): View? {
 // Inflate the layout
for this fragment
 return
inflater.inflate(R.layout.f
ragment_student_basic_d
etails, container, false)
 }

 companion object {
 /**
 * Use this factory
method to create a new
instance of
 * this fragment
using the provided
parameters.
 *
 * @param param1
Parameter 1.
 * @param param2
Parameter 2.
 * @return A new
instance of fragment
Fragment_student_basic_
```

```
details.
 */
 // TODO: Rename
and change types and
number of parameters
 @JvmStatic
 fun
newInstance(param1:
String, param2: String)
=

fragment_student_basic_
details().apply {
 arguments =
Bundle().apply {

putString(ARG_PARAM
1, param1)

putString(ARG_PARAM
2, param2)
 }
 }
 }
}
```

StudentMarkFragment.kt

```
package com.example.ex4
```

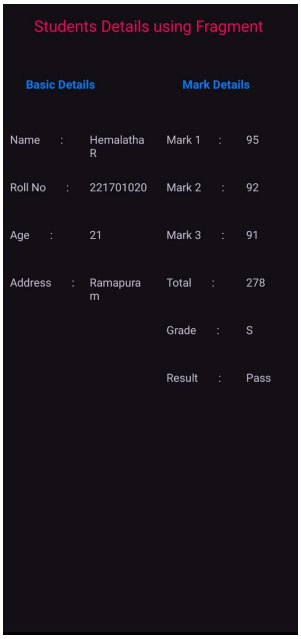
```
import android.os.Bundle
import androidx.fragment.app.Fragment
import
android.view.LayoutInflater
import android.view.View
import
android.view.ViewGroup

// TODO: Rename parameter
arguments, choose names that
match
// the fragment initialization
parameters, e.g.
ARG_ITEM_NUMBER
private const val
ARG_PARAM1 = "param1"
private const val
ARG_PARAM2 = "param2"

/**
 * A simple [Fragment]
subclass.
 * Use the
[fragment_student_mark.newIn
stance] factory method to
 * create an instance of this
fragment.
 */
```

```
class fragment_student_mark :
Fragment() {
 // TODO: Rename and
change types of parameters
 private var param1: String?
= null
 private var param2: String?
= null

 override fun
onCreate(savedInstanceState:
Bundle?) {

super.onCreate(savedInstanceS
tate)
 arguments?.let {
 param1 =
it.getString(ARG_PARAM1)
 param2 =
it.getString(ARG_PARAM2)
 }
 }

 override fun onCreateView(
 inflater: LayoutInflater,
container: ViewGroup?,
 savedInstanceState:
Bundle?
 ): View? {
 // Inflate the layout for this
```

```
fragment
 return
inflater.inflate(R.layout.fragme
nt_student_mark, container,
false)
 }

 companion object {
 /**
 * Use this factory method
to create a new instance of
 * this fragment using the
provided parameters.
 *
 * @param param1
Parameter 1.
 * @param param2
Parameter 2.
 * @return A new instance
of fragment
fragment_student_mark.
 */
 // TODO: Rename and
change types and number of
parameters
 @JvmStatic
 fun newInstance(param1:
String, param2: String) =
  fragment_student_mark().apply
```

```
{
 arguments =
Bundle().apply {
putString(ARG_PARAM1,
param1)
putString(ARG_PARAM2,
param2)
 }
 }
 }
}
```

Output :



Result:

The Application was developed using Kotlin in Android Studio.