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="vertic
al"

```
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="0d
p"
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.LayoutInfl
ater 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.Fragme nt 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.
         */
```

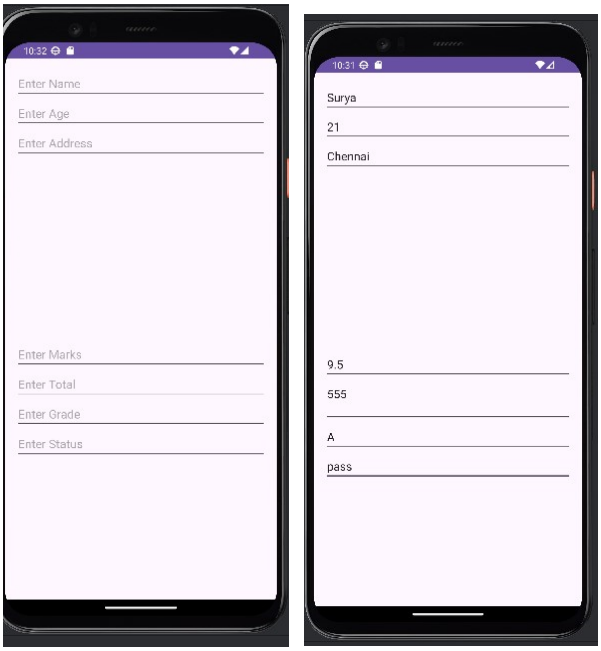
```
        // TODO: Rename and
    change types and number of
    parameters          @JvmStatic
    fun newInstance(param1:
    String, param2: String) =

    fragment_student_mark().apply {                arguments =
    Bundle().apply {

    putString(ARG_PARAM1, param1)

    putString(ARG_PARAM2, param2)
                }
            }
       }
    }
```

Output :


10:32
Enter Name
Enter Age
Enter Address
Enter Marks
Enter Total
Enter Grade
Enter Status
10:31
Surya
21
Chennai
9.5
555
A
pass

Result:

The Application was developed using Kotlin in Android Studio.