

Ex. No. : 04

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GUI Components

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 thesetwo 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.STUDETAILS"
        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>
```

MainActivity.kt package

package

com.example.studetails

import android.os.Bundle

import

androidx.appcompat.app.A

ppCompatActivity

import

androidx.fragment.app.Fra

```
gment
import
com.example.studetails.dat
abinding.ActivityMainBind
ing
```

```
class MainActivity :
AppCompatActivity() {
```

```
    private lateinit var
binding:
    ActivityMainBinding
```

```
    override fun
onCreate(savedInstanceState: Bundle?) {
```

```
        super.onCreate(savedInstanceState)

        binding =
        ActivityMainBinding.inflate(layoutInflater)
```

```
        setContentView(binding.root)
```

```
        replaceFragment(BasicDetailsFragment())
```

```
        binding.btnBasicDetails.setOnClickListener {
```

```
replaceFragment(BasicDetailsFragment())  
    }
```

```
binding.btnMarkDetails.setOnClickListener {
```

```
    replaceFragment(MarkDetailsFragment())  
    }
```

```
    private fun  
    replaceFragment(fragment:  
    Fragment) {
```

```
        supportFragmentManager.  
        beginTransaction()
```

```
        .replace(R.id.fragmentContainer, fragment)  
        .commit()  
    }  
}
```

Mark Details Fragment

```
package  
com.example.studetails
```

```
import android.os.Bundle
```

```

import
android.view.LayoutInflater
r
import android.view.View
import
android.view.ViewGroup
import
androidx.fragment.app.Fragment
import
com.example.studetails.databinding.FragmentBasicDetailsBinding

class
BasicDetailsFragment :
Fragment() {

    private var _binding:
    FragmentBasicDetailsBinding? = null
    private val binding get()
    = _binding!!

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

```

```

FragmentBasicDetailsBinding.inflate(inflater,
container, false)
    return binding.root
}

override fun
onDestroyView() {
    super.onDestroyView()
    _binding = null
}
}

```

Basic Details Fragment

```

package
com.example.studetails

import android.os.Bundle
import
android.view.LayoutInflater
r
import android.view.View
import
android.view.ViewGroup
import
androidx.fragment.app.Fragment
import
com.example.studetails.dat

```

```
abinding.FragmentMarkDe  
tailsBinding
```

```
class
```

```
MarkDetailsFragment :  
Fragment() {
```

```
    private var _binding:  
FragmentMarkDetailsBind  
ing? = null  
    private val binding get()  
= _binding!!
```

```
    override fun  
onCreateView(  
        inflater:  
LayoutInflater, container:  
ViewGroup?,  
        savedInstanceState:  
Bundle?,  
        ): View {  
        _binding =  
FragmentMarkDetailsBind  
ing.inflate(inflater,  
container, false)  
        return binding.root  
    }
```

```
    override fun  
onDestroyView() {  
        super.onDestroyView()  
        _binding = null
```

```
}  
}
```

Activivty_main.xml

```
<?xml version="1.0"  
encoding="utf-8"?>  
<LinearLayout  
xmlns:android="http://sc  
hemas.android.com/apk/r  
es/android"  
  
xmlns:tools="http://sche  
mas.android.com/tools"  
  
android:id="@+id/mainL  
ayout"  
  
android:layout_width="  
match_parent"  
  
android:layout_height="  
match_parent"  
  
android:orientation="ver  
tical"  
  
tools:context=".MainActi  
vity">  
  
<LinearLayout
```



```
android:layout_width="
match_parent"
```

```
android:layout_height="
wrap_content"
```

```
android:orientation="hor
izontal">
```

```
<Button
```

```
android:id="@+id/btnBas
icDetails"
```

```
android:layout_width="0
dp"
```

```
android:layout_weight="
1"
```

```
android:layout_height="
wrap_content"
```

```
android:text="Basic
Details" />
```

```
<Button
```

```
android:id="@+id/btnMa
```

```
rkDetails"
```

```
android:layout_width="0  
dp"
```

```
android:layout_weight="1"
```

```
android:layout_height="wrap_content"
```

```
android:text="Mark  
Details" />  
</LinearLayout>
```

```
<FrameLayout
```

```
android:id="@+id/fragme  
ntContainer"
```

```
android:layout_width="match_parent"
```

```
android:layout_height="0dp"
```

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

```
</LinearLayout>
```

Basic details XML

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

android:padding="16dp"

android:orientation="vertical"

android:layout_width="
match_parent"

android:layout_height="
match_parent">

    <EditText

        android:id="@+id/etName"

        android:hint="Name"

        android:layout_width="
match_parent"

        android:layout_height="
```

```
wrap_content" />
```

```
<EditText
```

```
android:id="@+id/etAge"
```

```
    android:hint="Age"
```

```
    android:inputType="number"
```

```
    android:layout_width="match_parent"
```

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

```
<EditText
```

```
android:id="@+id/etAddress"
```

```
    android:hint="Address"
```

```
    android:layout_width="match_parent"
```

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

```
</LinearLayout>
```

Mark details XML

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

android:padding="16dp"

android:orientation="vertical"

android:layout_width="match_parent"

android:layout_height="match_parent">

    <EditText

        android:id="@+id/etMarks"

        android:hint="@string/mark"

        android:inputType="number"
```

```
android:layout_width="
match_parent"
```

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

```
<EditText
```

```
android:id="@+id/etTotal
"
```

```
android:hint="Total"
```

```
android:inputType="num
ber"
```

```
android:layout_width="
match_parent"
```

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

```
<EditText
```

```
android:id="@+id/etGrad
e"
```

```
android:hint="Grade"
```

```
android:layout_width="
```

```
match_parent"
```

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

```
<EditText
```

```
android:id="@+id/etStatus"
```

```
android:hint="Status"
```

```
android:layout_width="match_parent"
```

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

Output :

A screenshot of an Android application interface. The background is a light pink color. The form consists of several text input fields with horizontal lines. The first field contains the text "Harini". The second field contains "21". The third field contains "12,big street,kundrathur ,Chennai-62". Below this is an empty field. The next field contains "80". The following field contains "100". The next field contains "A". The final field contains "Pass". To the left of the form, there is a white circular button with a grey hamburger menu icon (three horizontal lines). In the bottom right corner, there is a dark grey vertical bar containing a white plus sign, a minus sign, the text "1:1", and a small icon of a document with a checkmark.

Result:

The Application developed using Android Studio was done.

