Ex. No.	:	04	Date: 26-04-25
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Android Fragments

Aim
Develop an android application to create two activities named as Student Basic Details
(Register No., Name, Department) and Student Mark Details (SSLC, HSC, UG). 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
<?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.AndroidFragments"
        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
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <FrameLayout
        android:id="@+id/fragment_basic_details"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"/>

    <FrameLayout
        android:id="@+id/fragment_marks"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        app:layout_constraintTop_toBottomOf="@id/fragment_basic_details"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"/>

</androidx.constraintlayout.widget.ConstraintLayout>
```

fragment_student_basic_details.xml

```xml
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    xmlns:app="http://schemas.android.com/apk/res-auto">

    <EditText
        android:id="@+id/et_name"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:hint="Name"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"/>

    <EditText
        android:id="@+id/et_age"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:hint="Age"
        app:layout_constraintTop_toBottomOf="@id/et_name"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"/>

    <EditText
        android:id="@+id/et_address"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:hint="Address"
        app:layout_constraintTop_toBottomOf="@id/et_age"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"/>
</androidx.constraintlayout.widget.ConstraintLayout>
```

fragment_student_mark_details.xml

```xml
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:padding="16dp">

    <EditText
        android:id="@+id/editTextMarks"
        android:hint="Marks"
        android:inputType="number"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent" />

    <EditText
        android:id="@+id/editTextTotal"
        android:hint="Total"
        android:inputType="number"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_marginTop="12dp"
        app:layout_constraintTop_toBottomOf="@id/editTextMarks"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent" />
```

```xml
<EditText
    android:id="@+id/editTextGrade"
    android:hint="Grade"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_marginTop="12dp"
    app:layout_constraintTop_toBottomOf="@id/editTextTotal"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent" />

 <EditText
    android:id="@+id/editTextStatus"
    android:hint="Status"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_marginTop="12dp"
    app:layout_constraintTop_toBottomOf="@id/editTextGrade"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.kt

```kotlin
package com.example.androidfragments

import android.os.Bundle
import androidx.appcompat.app.AppCompatActivity

import com.example.androidfragments.StudentBasic
import com.example.androidfragments.StudentMarks

class MainActivity : AppCompatActivity() {

  override fun onCreate(savedInstanceState: Bundle?) {
    super.onCreate(savedInstanceState)
    setContentView(R.layout.activity_main)  // Correct reference to the layout

    // Load Student Basic Details Fragment
    supportFragmentManager.beginTransaction()
      .replace(R.id.fragment_basic_details, StudentBasic())
      .commit()

    // Load Student Mark Fragment
    supportFragmentManager.beginTransaction()
      .replace(R.id.fragment_marks, StudentMarks())
      .commit()
  }
}
```

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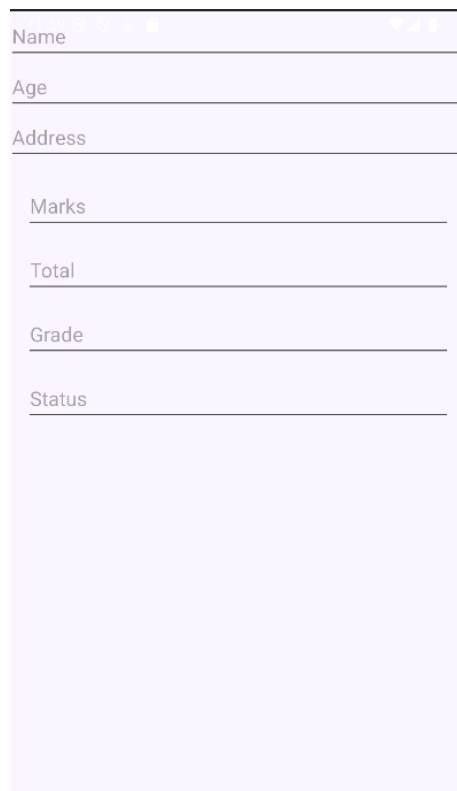
StudentBasicDetails.kt

```kotlin
package com.example.androidfragments

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

class StudentBasic : Fragment() {
    override fun onCreateView(
        inflater: LayoutInflater, container: ViewGroup?,
        savedInstanceState: Bundle?
    ): View? {
        return inflater.inflate(R.layout.fragment_basic_details, container, false)
    }
}
```

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StudentMarkDetails.kt

```kotlin
package com.example.androidfragments

import android.os.Bundle
import android.view.LayoutInflater
import android.view.View
import android.view.ViewGroup
import androidx.fragment.app.Fragment  // Correct import for Fragment

class StudentMarks : Fragment() {

    override fun onCreateView(
        inflater: LayoutInflater,
        container: ViewGroup?,
        savedInstanceState: Bundle?
    ): View? {
        return inflater.inflate(R.layout.fragment_student_mark, container, false)  // Make sure the layout is correct
    }
}
```

Output

```
Name

Age

Address

    Marks

    Total

    Grade

    Status
```

Result:

The experiment was conducted successfully