



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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Experiment 3.1

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Section/Group: NTPP-601-A

Semester: 6th

Subject Name: Mobile Application Development Lab

Subject Code: 21CSP-355

1. Aim:

Create an Android application using Fragments.

2. Objective:

The objective of this Android application is to develop a versatile and user-friendly mobile application utilizing Fragments. Fragments provide a flexible and modular approach to designing interfaces, allowing for efficient management of UI components across various screen sizes and orientations. By leveraging Fragments, we aim to enhance the user experience by providing a responsive and adaptable interface that seamlessly adapts to different devices and user interactions.

3. Procedure:

Step 1: Open Android Studio and then click on File -> New -> New project.

Step 2: Then type the Application name as SMS intent and click Next.

Step 3: Then select the Minimum SDK as shown below and click Next.

Step 4: Then select the Empty Activity and click Next. Finally click Finish.

Step 5: Design layout in activity_main.xml.

Step 6: Prepare fragments and Display details give in MainActivity file.

Step 7: Save and run the application.

4. CODE:

MainActivity.kt:-

```
package com.example.expfragment
import android.os.Bundle
import androidx.appcompat.app.AppCompatActivity
class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main) }
}
```



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- activity_main.xml

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    tools:context=".MainActivity">
```

```
<fragment android:id="@+id/fragment1"
    android:name="com.example.expfragment.Fragment1"
    android:layout_width="0px"
    android:layout_height="match_parent"
    android:layout_weight="1" />
```

```
<fragment android:id="@+id/fragment2"
    android:name="com.example.expfragment.Fragment2"
    android:layout_width="0px"
    android:layout_height="match_parent"
    android:layout_weight="1" />
```

```
</LinearLayout>
```

```
Fragment1.kt package com.example.expfragment
import android.os.Bundle import android.view.LayoutInflater import android.view.View
import android.view.ViewGroup import androidx.fragment.app.Fragment
```

```
class Fragment1 : Fragment() { override fun onCreate(savedInstanceState: Bundle?) {
    super.onCreate(savedInstanceState) }
```

```
override fun onCreateView( inflater: LayoutInflater, container: ViewGroup?,
    savedInstanceState: Bundle?
```

```
): View? {
```

```
// Inflate the layout for this fragment
```

```
return inflater.inflate(R.layout.fragment_1, container, false) }
```

```
}
```

```
□ Fragment1.xml
```

```
<FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools" android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#F5F5DC" tools:context=".Fragment1">
```

```
<TextView android:layout_width="match_parent" android:layout_height="match_parent"
    android:text="@string/hello_blank_fragment" />
```

```
</FrameLayout>
```

```
□ Fragment2.kt package com.example.expfragment import android.os.Bundle import
android.view.LayoutInflater import android.view.View import android.view.ViewGroup
import androidx.fragment.app.Fragment
```

```
class Fragment2 : Fragment() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
    }
}
```

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

```
// Inflate the layout for this fragment
```

```
return inflater.inflate(R.layout.fragment_2, container, false)
```

```
}
```

```
}
```

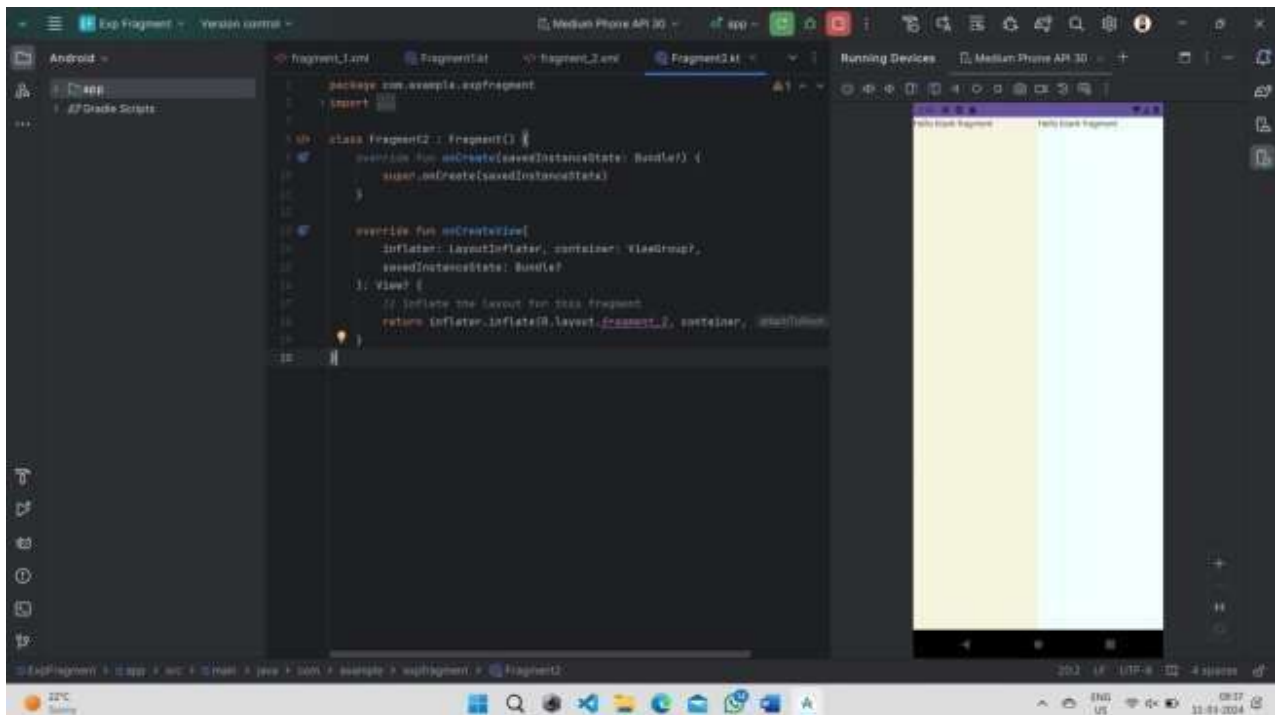
□ Fragment2.xml

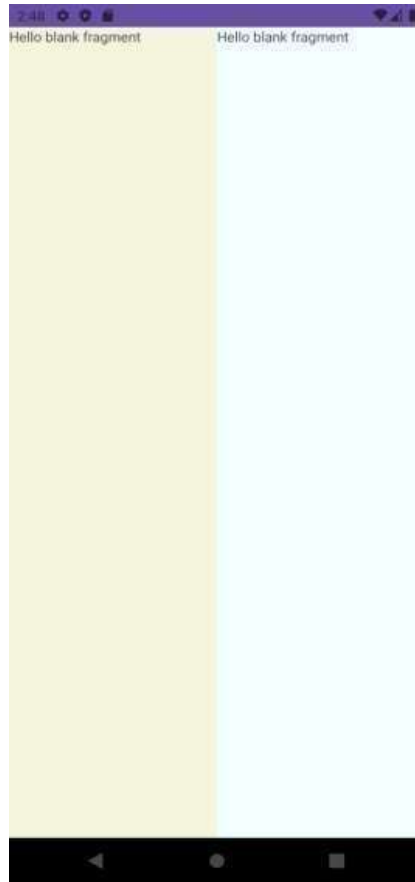
```
<FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools" android:layout_width="match_parent"
    android:layout_height="match_parent" android:background="#F0FFFF"
    tools:context=".Fragment2">
```

```
<TextView android:layout_width="match_parent" android:layout_height="match_parent"
    android:text="@string/hello_blank_fragment" />
```

```
</FrameLayout>
```

5. Output:





6. Learning outcomes:

- Gain proficiency in developing Android fragments, including understanding the lifecycle of fragments, implementing UI elements, and handling user interactions.
- Learn how to integrate fragments into Android applications, including embedding them within other applications and placing them on the home screen.
- Understand methods for managing and updating data displayed in the fragment, including fetching data from remote sources, caching strategies, and handling periodic updates efficiently.