

---

## Experiment 5

**Title: Demonstration of Android Activity and Fragment life cycle for “Hello World” application.**

### **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.Practical5"
        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.java**

```
package com.example.practical5;
import android.os.Bundle;
import android.util.Log;
```

```
import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        if (savedInstanceState == null) {
            getSupportFragmentManager().beginTransaction()
                .replace(R.id.main, new BlankFragment())
                .commit();
        }
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main),
            (v, insets) -> {
                Insets systemBars =
insets.getInsets(WindowInsetsCompat.Type.systemBars());
                v.setPadding(systemBars.left, systemBars.top,
                    systemBars.right, systemBars.bottom);
                return insets;
            });
    }

    protected void onStart() {
        super.onStart();
        Log.d("Lifecycle", "onStart");
    }
    protected void onResume() {
        super.onResume();
        Log.d("Lifecycle", "onResume");
    }
}
```

```
protected void onPause() {  
    super.onPause();  
    Log.d("Lifecycle", "onPause");  
}  
protected void onStop() {  
    super.onStop();  
    Log.d("Lifecycle", "onStop");  
}  
protected void onDestroy() {  
    super.onDestroy();  
    Log.d("Lifecycle", "onDestroy");  
}  
protected void onRestart() {  
    super.onRestart();  
    Log.d("Lifecycle", "onRestart");  
}  
}
```

### **activity\_main.xml**

```
<?xml version="1.0" encoding="utf-8"?>  
<androidx.constraintlayout.widget.ConstraintLayout  
    xmlns:android="http://schemas.android.com/apk/res/android"  
    xmlns:app="http://schemas.android.com/apk/res-auto"  
    xmlns:tools="http://schemas.android.com/tools"  
    android:id="@+id/main"  
    android:layout_width="match_parent"  
    android:layout_height="match_parent"  
    tools:context=".MainActivity">  
    <TextView  
        android:layout_width="wrap_content"  
        android:layout_height="wrap_content"  
        android:text="Hello World!"  
        app:layout_constraintBottom_toBottomOf="parent"
```

```
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
<FrameLayout
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/f1"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintBottom_toBottomOf="parent"/>
</androidx.constraintlayout.widget.ConstraintLayout>
```

### **BlankFragment.java**

```
package com.example.practical5;
import android.os.Bundle;
import android.util.Log;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import androidx.annotation.NonNull;
import androidx.annotation.Nullable;
import androidx.fragment.app.Fragment;

public class BlankFragment extends Fragment {
    private static final String TAG = "HelloWorldFragment";
    @Nullable
    @Override
    public View onCreateView(@NonNull LayoutInflater inflater, @Nullable
        ViewGroup container, @Nullable Bundle savedInstanceState) {
        Log.d("fragmentlifecycle", "onCreateView called");
        return inflater.inflate(R.layout.fragment_blank, container,
            false);
    }
}
```

```
@Override
public void onCreateView(@NonNull View view, @Nullable Bundle
    savedInstanceState) {
    super.onCreateView(view, savedInstanceState);
    Log.d("fragmentlifecycle", "onViewCreated called");
}
@Override
public void onStart() {
    super.onStart();
    Log.d("fragmentlifecycle", "onStart called");
}
@Override
public void onResume() {
    super.onResume();
    Log.d(TAG, "onResume called");
}
@Override
public void onPause() {
    super.onPause();
    Log.d("fragmentlifecycle", "onPause called");
}
@Override
public void onStop() {
    super.onStop();
    Log.d("fragmentlifecycle", "onStop called");
}
@Override
public void onDestroyView() {
    super.onDestroyView();
    Log.d("fragmentlifecycle", "onDestroyView called");
}
@Override
public void onDestroy() {
    super.onDestroy();
```

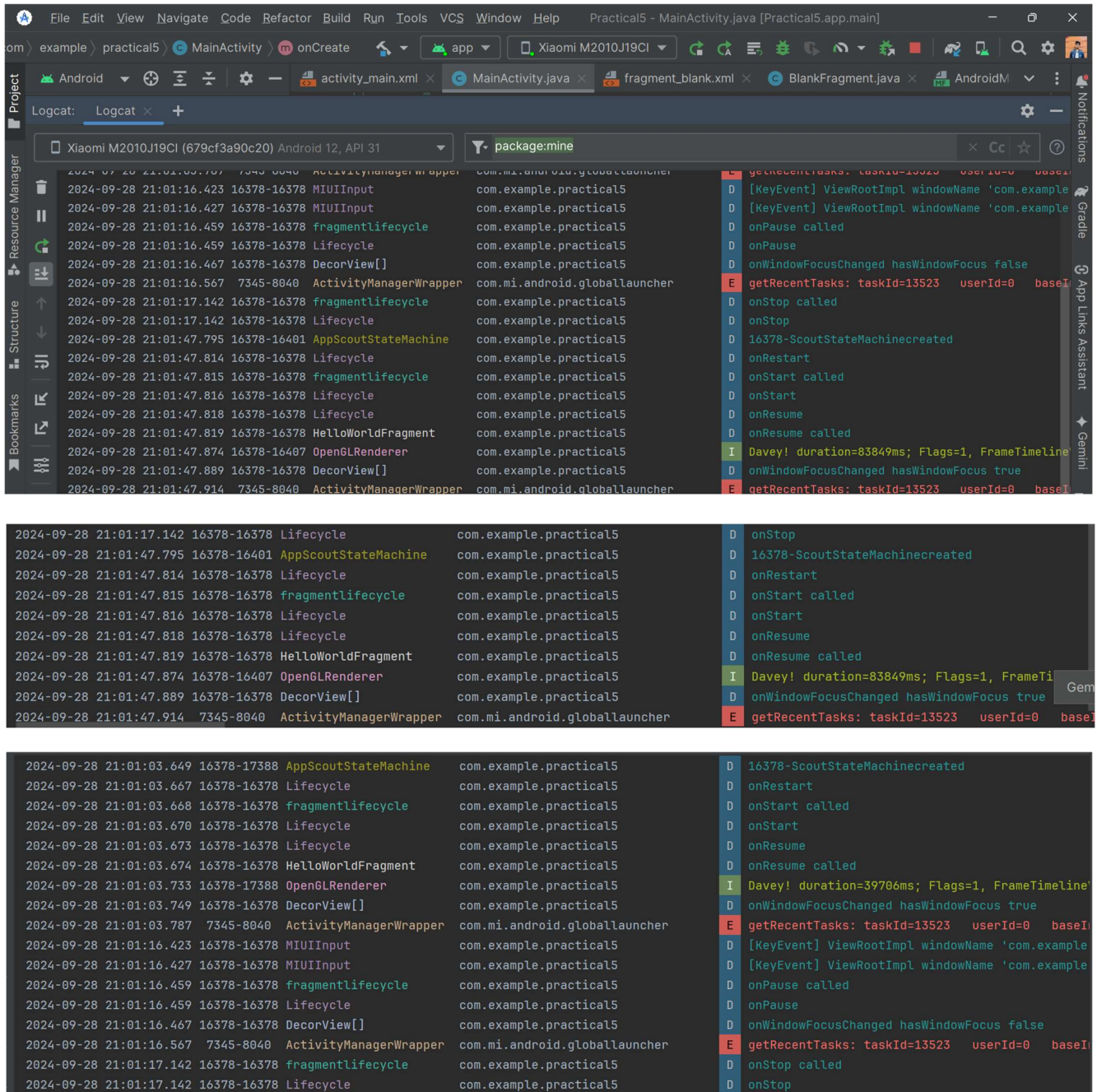
---

```
Log.d("fragmentlifecycle", "onDestroy called");  
}  
}
```

### **fragment\_blank.xml**

```
<?xml version="1.0" encoding="utf-8"?>  
<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"  
    tools:context=".BlankFragment">  
    <TextView  
        android:layout_width="match_parent"  
        android:layout_height="match_parent"  
        android:text="@string/hello_blank_fragment" />  
</FrameLayout>
```

## Output:



```

2024-09-28 21:01:16.423 16378-16378 MIUIInput com.example.practical5 D [KeyEvent] ViewRootImpl windowName 'com.example
2024-09-28 21:01:16.427 16378-16378 MIUIInput com.example.practical5 D [KeyEvent] ViewRootImpl windowName 'com.example
2024-09-28 21:01:16.459 16378-16378 fragmentlifecycle com.example.practical5 D onPause called
2024-09-28 21:01:16.459 16378-16378 Lifecycle com.example.practical5 D onPause
2024-09-28 21:01:16.467 16378-16378 DecorView[] com.example.practical5 D onWindowFocusChanged hasWindowFocus false
2024-09-28 21:01:16.567 7345-8040 ActivityManagerWrapper com.mi.android.globallauncher E getRecentTasks: taskId=13523 userId=0 baseI
2024-09-28 21:01:17.142 16378-16378 fragmentlifecycle com.example.practical5 D onStop called
2024-09-28 21:01:17.142 16378-16378 Lifecycle com.example.practical5 D onStop
2024-09-28 21:01:47.795 16378-16401 AppScoutStateMachine com.example.practical5 D 16378-ScoutStateMachinecreated
2024-09-28 21:01:47.814 16378-16378 Lifecycle com.example.practical5 D onRestart
2024-09-28 21:01:47.815 16378-16378 fragmentlifecycle com.example.practical5 D onStart called
2024-09-28 21:01:47.816 16378-16378 Lifecycle com.example.practical5 D onStart
2024-09-28 21:01:47.818 16378-16378 Lifecycle com.example.practical5 D onResume
2024-09-28 21:01:47.819 16378-16378 HelloWorldFragment com.example.practical5 D onResume called
2024-09-28 21:01:47.874 16378-16407 OpenGLRenderer com.example.practical5 I Davey! duration=83849ms; Flags=1, FrameTimeline
2024-09-28 21:01:47.889 16378-16378 DecorView[] com.example.practical5 D onWindowFocusChanged hasWindowFocus true
2024-09-28 21:01:47.914 7345-8040 ActivityManagerWrapper com.mi.android.globallauncher E getRecentTasks: taskId=13523 userId=0 baseI

2024-09-28 21:01:17.142 16378-16378 Lifecycle com.example.practical5 D onStop
2024-09-28 21:01:47.795 16378-16401 AppScoutStateMachine com.example.practical5 D 16378-ScoutStateMachinecreated
2024-09-28 21:01:47.814 16378-16378 Lifecycle com.example.practical5 D onRestart
2024-09-28 21:01:47.815 16378-16378 fragmentlifecycle com.example.practical5 D onStart called
2024-09-28 21:01:47.816 16378-16378 Lifecycle com.example.practical5 D onStart
2024-09-28 21:01:47.818 16378-16378 Lifecycle com.example.practical5 D onResume
2024-09-28 21:01:47.819 16378-16378 HelloWorldFragment com.example.practical5 D onResume called
2024-09-28 21:01:47.874 16378-16407 OpenGLRenderer com.example.practical5 I Davey! duration=83849ms; Flags=1, FrameTi
2024-09-28 21:01:47.889 16378-16378 DecorView[] com.example.practical5 D onWindowFocusChanged hasWindowFocus true
2024-09-28 21:01:47.914 7345-8040 ActivityManagerWrapper com.mi.android.globallauncher E getRecentTasks: taskId=13523 userId=0 baseI

2024-09-28 21:01:03.649 16378-17388 AppScoutStateMachine com.example.practical5 D 16378-ScoutStateMachinecreated
2024-09-28 21:01:03.667 16378-16378 Lifecycle com.example.practical5 D onRestart
2024-09-28 21:01:03.668 16378-16378 fragmentlifecycle com.example.practical5 D onStart called
2024-09-28 21:01:03.670 16378-16378 Lifecycle com.example.practical5 D onStart
2024-09-28 21:01:03.673 16378-16378 Lifecycle com.example.practical5 D onResume
2024-09-28 21:01:03.674 16378-16378 HelloWorldFragment com.example.practical5 D onResume called
2024-09-28 21:01:03.733 16378-17388 OpenGLRenderer com.example.practical5 I Davey! duration=39706ms; Flags=1, FrameTimeline
2024-09-28 21:01:03.749 16378-16378 DecorView[] com.example.practical5 D onWindowFocusChanged hasWindowFocus true
2024-09-28 21:01:03.787 7345-8040 ActivityManagerWrapper com.mi.android.globallauncher E getRecentTasks: taskId=13523 userId=0 baseI
2024-09-28 21:01:16.423 16378-16378 MIUIInput com.example.practical5 D [KeyEvent] ViewRootImpl windowName 'com.example
2024-09-28 21:01:16.427 16378-16378 MIUIInput com.example.practical5 D [KeyEvent] ViewRootImpl windowName 'com.example
2024-09-28 21:01:16.459 16378-16378 fragmentlifecycle com.example.practical5 D onPause called
2024-09-28 21:01:16.459 16378-16378 Lifecycle com.example.practical5 D onPause
2024-09-28 21:01:16.467 16378-16378 DecorView[] com.example.practical5 D onWindowFocusChanged hasWindowFocus false
2024-09-28 21:01:16.567 7345-8040 ActivityManagerWrapper com.mi.android.globallauncher E getRecentTasks: taskId=13523 userId=0 baseI
2024-09-28 21:01:17.142 16378-16378 fragmentlifecycle com.example.practical5 D onStop called
2024-09-28 21:01:17.142 16378-16378 Lifecycle com.example.practical5 D onStop
  
```