Experiment 5

Title: Demonstration of Android Activity and Fragment life cycle for "Hello World" application.

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.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

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

```java
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");}
```

```java
    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
<?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"
```

```xml
        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

```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);
    }
}
```

```java
@Override
public void onViewCreated(@NonNull View view, @Nullable Bundle
        savedInstanceState) {
    super.onViewCreated(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();
```
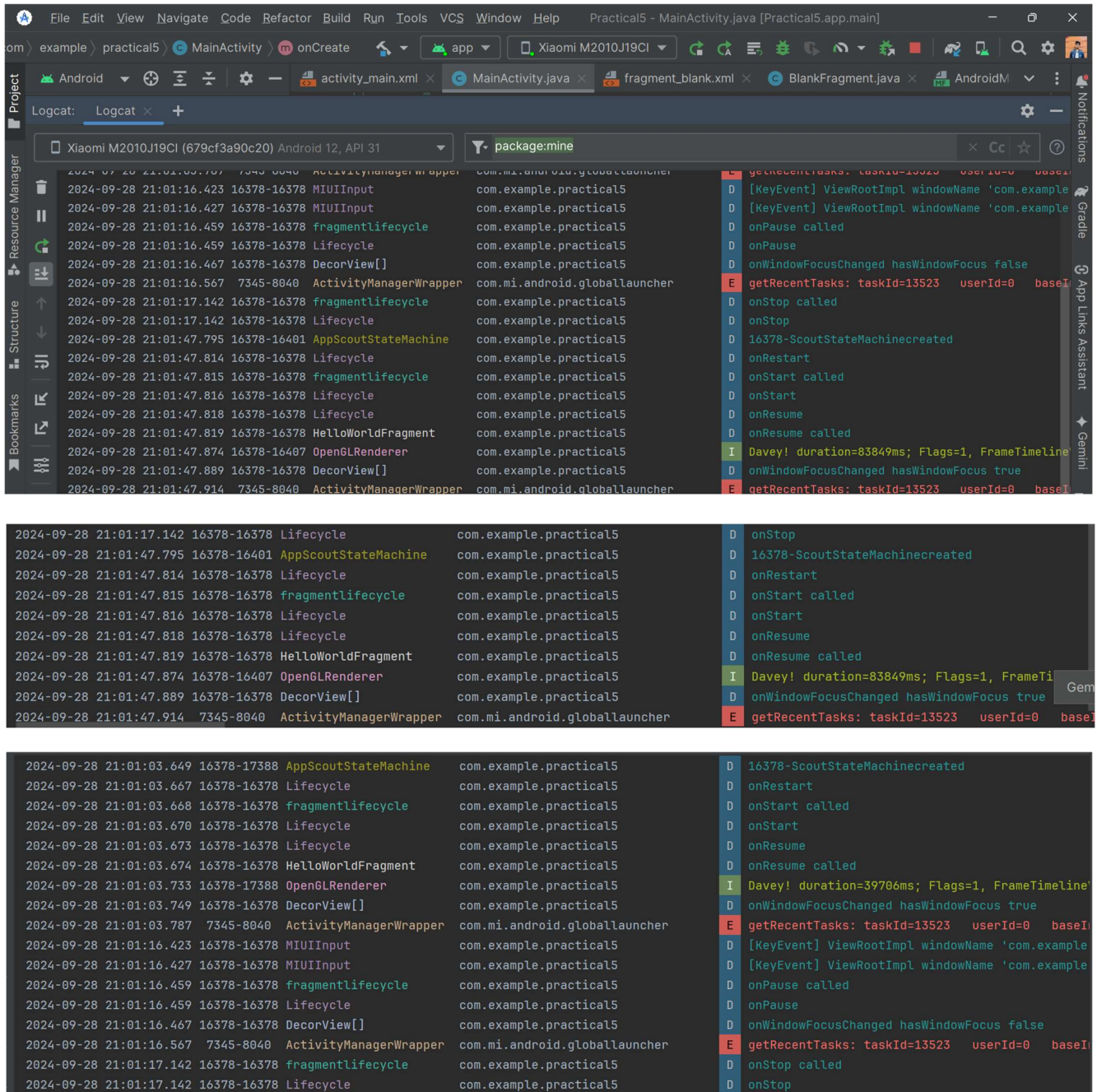
```java
        Log.d("fragmentlifecycle", "onDestroy called");
    }
}
```

fragment_blank.xml

```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: