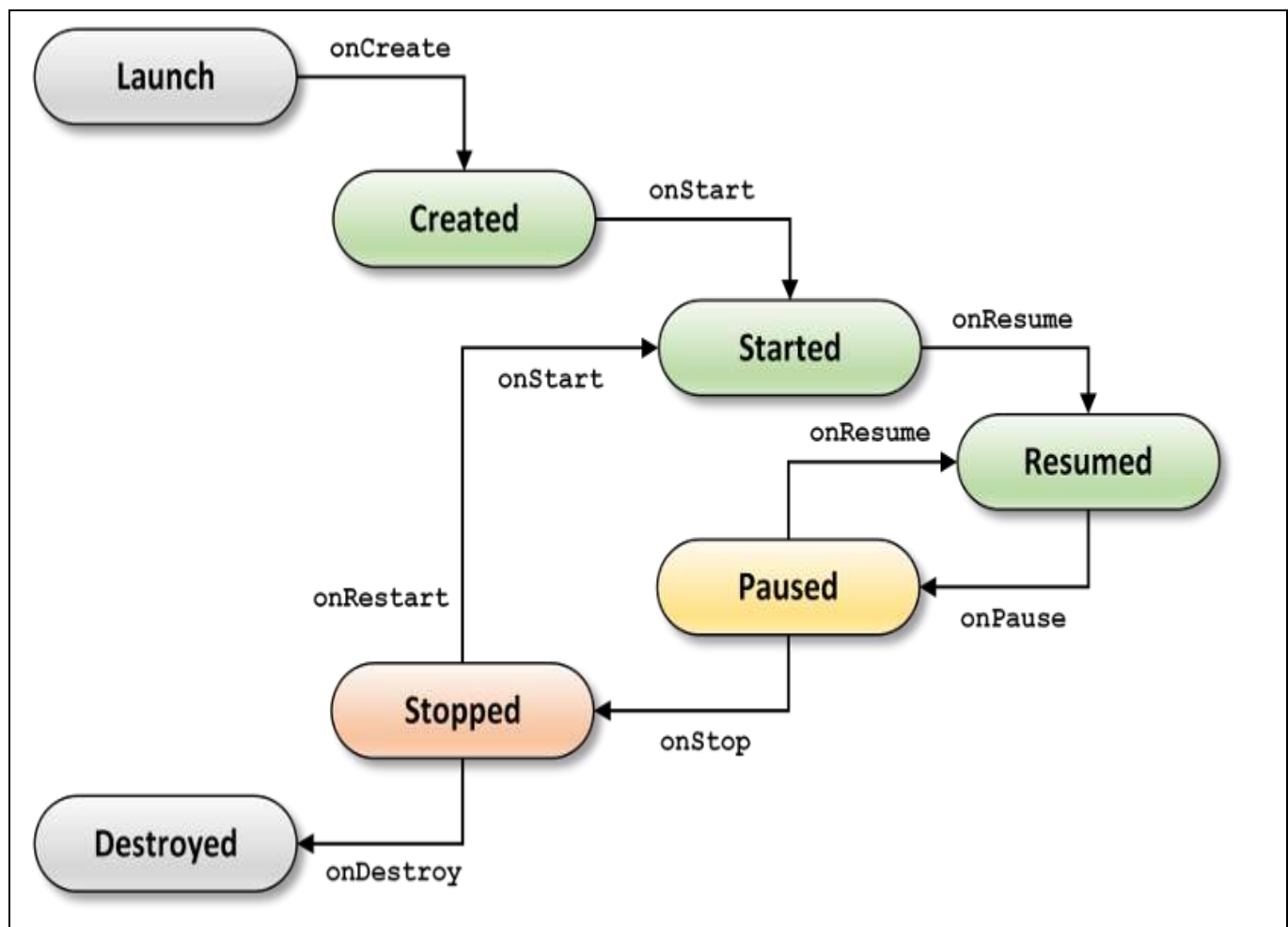---

Practical 3

Programming Activities and fragments

Activity Life Cycle, Activity methods, Multiple Activities, Life Cycle of fragments and multiple fragments.

a) Activity Life Cycle

The various methods to be created are onStart(), onRestart(), onStop(), onResume(),onDestroy() and onPause() as shown in the figure.

Create a new project and go to, **MainActivity.java**

```java
package MaharashtraCollege.example.profshahidansari;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.util.Log;
public class MainActivity extends AppCompatActivity {

    String tag= "Android Lifecycle Demonstration";
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Log.d(tag,"In the onCreate() event");
    }
    public void onStart()
    {
        super.onStart();
        Log.d(tag,"In the onStart() event");
    }
    public void onRestart()
    { super.onRestart();
        Log.d(tag,"In the onRestart() event");
    }
    public void onPause()
    {
        super.onPause();
        Log.d(tag,"In the onPause() event");
    }
    public void onStop()
    {
        super.onStop();
        Log.d(tag,"In the onStop() event");
    }
    public void onDestroy()
    {
        super.onDestroy();
        Log.d(tag,"In the onDestroy() event");
    }


}
```
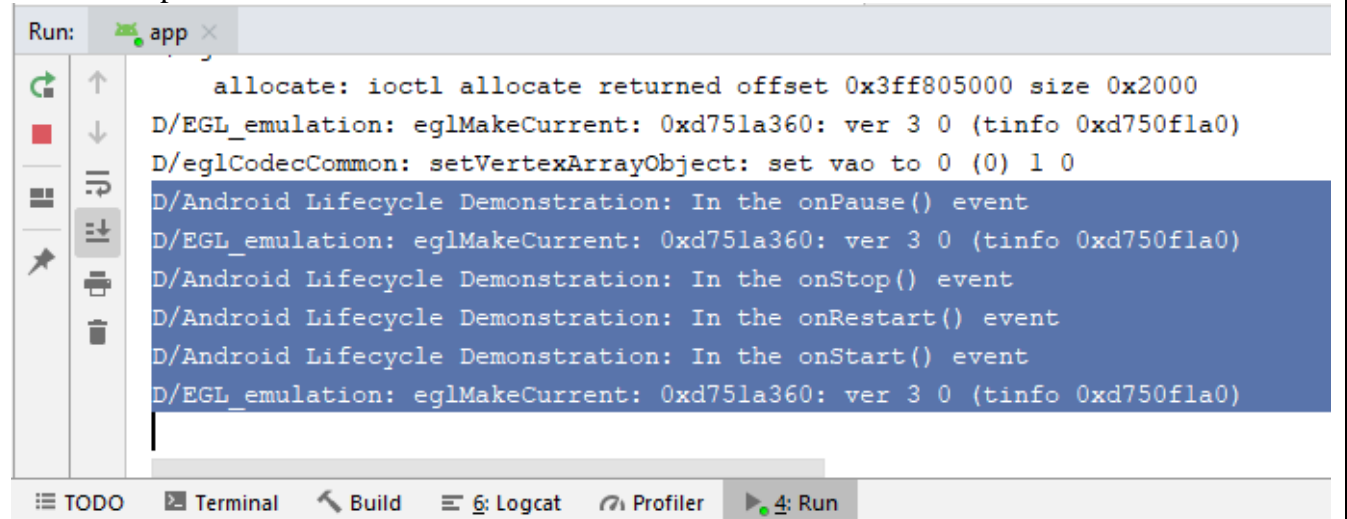
Output
See the Output in Run tab

```
Run:    app ×

      allocate: ioctl allocate returned offset 0x3ff805000 size 0x2000
D/EGL_emulation: eglMakeCurrent: 0xd751a360: ver 3 0 (tinfo 0xd750fla0)
D/eglCodecCommon: setVertexArrayObject: set vao to 0 (0) 1 0
D/Android Lifecycle Demonstration: In the onPause() event
D/EGL_emulation: eglMakeCurrent: 0xd751a360: ver 3 0 (tinfo 0xd750fla0)
D/Android Lifecycle Demonstration: In the onStop() event
D/Android Lifecycle Demonstration: In the onRestart() event
D/Android Lifecycle Demonstration: In the onStart() event
D/EGL_emulation: eglMakeCurrent: 0xd751a360: ver 3 0 (tinfo 0xd750fla0)


≡ TODO    Terminal    Build    ≡ 6: Logcat    Profiler    ▶ 4: Run
```
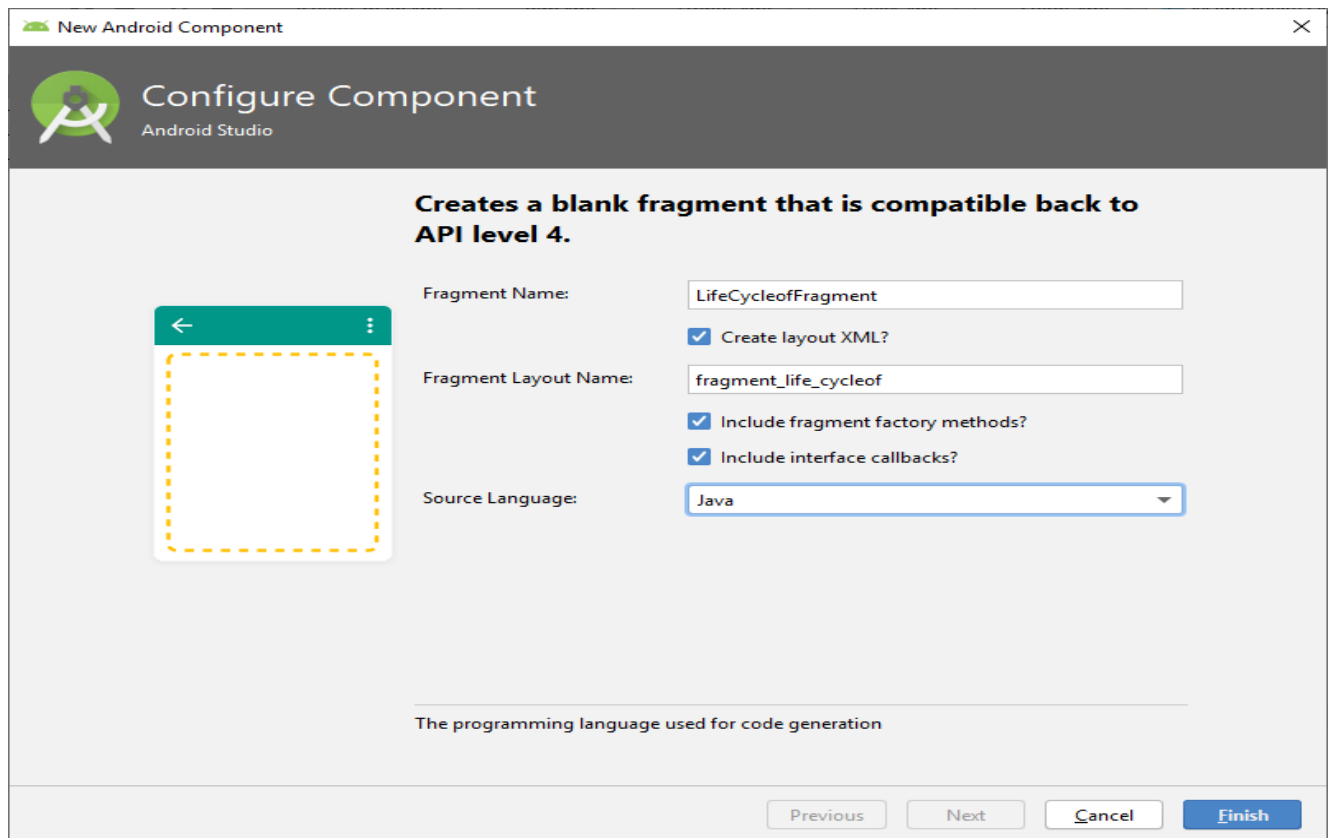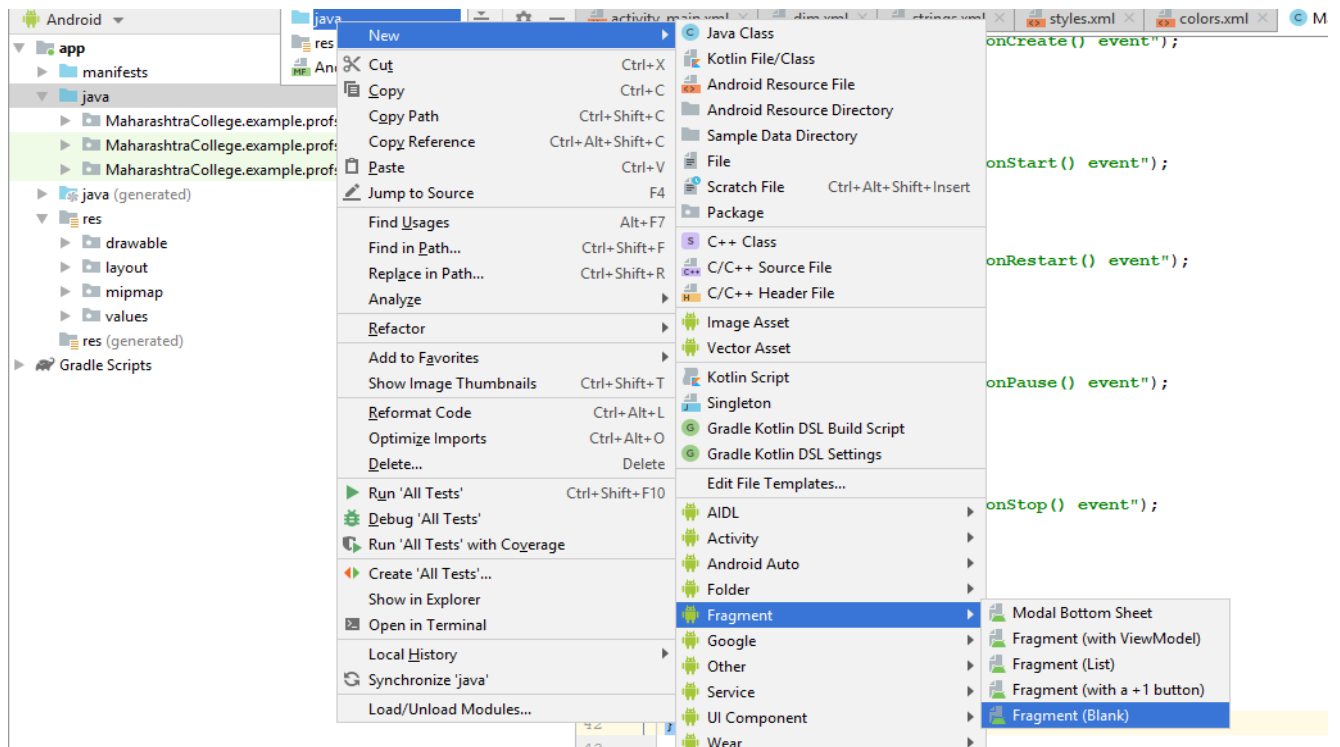
b) Life Cycle of fragments

Create a new project
Add a new Fragment
ProjectName>App>src>main>Java
3. Right click on Java and select **'Add Fragment'>Add Fragment(Blank)**
Give a name to the fragment and click Finish

```java
package MaharashtraCollege.example.profshahidansari;

import android.content.Context;
import android.net.Uri;
import android.os.Bundle;

import androidx.fragment.app.Fragment;

import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.util.Log;

public class LifeCycleofFragment extends Fragment {
    String tag = "Life Cycle of Fragment";
    // TODO: Rename parameter arguments, choose names that match
    // the fragment initialization parameters, e.g. ARG_ITEM_NUMBER
    private static final String ARG_PARAM1 = "param1";
    private static final String ARG_PARAM2 = "param2";

    // TODO: Rename and change types of parameters
    private String mParam1;
    private String mParam2;

    private OnFragmentInteractionListener mListener;

    public LifeCycleofFragment() {

    // TODO: Rename and change types and number of parameters
    public static LifeCycleofFragment newInstance(String param1, String
param2) {
        LifeCycleofFragment fragment = new LifeCycleofFragment();
        Bundle args = new Bundle();
        args.putString(ARG_PARAM1, param1);
        args.putString(ARG_PARAM2, param2);
        fragment.setArguments(args);
        return fragment;
    }

    @Override
    public void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        if (getArguments() != null) {
            mParam1 = getArguments().getString(ARG_PARAM1);
            mParam2 = getArguments().getString(ARG_PARAM2);
        }
    }

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                         Bundle savedInstanceState) {
```

```java
        // Inflate the layout for this fragment
        return inflater.inflate(R.layout.fragment_life_cycleof, container,
false);
    }

    // TODO: Rename method, update argument and hook method into UI event
    public void onButtonPressed(Uri uri) {
        if (mListener != null) {
            mListener.onFragmentInteraction(uri);
        }
    }

    @Override
    public void onAttach(Context context) {
        super.onAttach(context);
        if (context instanceof OnFragmentInteractionListener) {
            mListener = (OnFragmentInteractionListener) context;
        } else {
            throw new RuntimeException(context.toString()
                    + " must implement OnFragmentInteractionListener");
        }
    }

    @Override
    public void onDetach() {
        super.onDetach();
        mListener = null;
    }

    public interface OnFragmentInteractionListener {
        // TODO: Update argument type and name
        void onFragmentInteraction(Uri uri);
    }

    public void onStart()
    {
        super.onStart();
        Log.d(tag,"In the onStart() event");
    }
    public void onRestart()
    {

        Log.d(tag,"In the onRestart() event");
    }
    public void onPause()
    {
        super.onPause();
        Log.d(tag,"In the onPause() event");
    }
    public void onStop()
    {
        super.onStop();
        Log.d(tag,"In the onStop() event");
    }
```

```
    public void onDestroy()
    {
        super.onDestroy();
        Log.d(tag,"In the onDestroy() event");
    }
}
```

Output