PRACTICAL:6

AIM: Create an application which turns ON or OFF Torch/Flashlight of Camera.

Source Code:

Java File/s:
MainActivity.java

```
package com.example.practical6;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Context;
import android.content.pm.PackageManager;
import android.graphics.Camera;
import android.hardware.camera2.CameraAccessException;
import android.hardware.camera2.CameraManager;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Chronometer;
import android.widget.CompoundButton;
import android.widget.ToggleButton;

import java.security.Policy;

public class MainActivity extends AppCompatActivity {

    ToggleButton t1,t2;
    CameraManager cm;
    String cameraId;
    int counter = 0;
    Chronometer c1;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        boolean isFlashAvailabe =
getApplicationContext().getPackageManager().hasSystemFeature(PackageManager.FEATURE_C
AMERA_FLASH);
        t1 = findViewById(R.id.t1);
        t2 = findViewById(R.id.t2);
        c1 = findViewById(R.id.c1);
        counter = 0;

        if (!isFlashAvailabe){
            showFlashError();
```

```
    }

    cm = (CameraManager) getSystemService(Context.CAMERA_SERVICE);
    try{
        cameraId = cm.getCameraIdList()[0];
    }catch (CameraAccessException e){
        e.printStackTrace();
    }


    t2.setOnCheckedChangeListener(new CompoundButton.OnCheckedChangeListener() {
        @Override
        public void onCheckedChanged(CompoundButton compoundButton, boolean b) {
            c1.start();
            chronometer(b);
        }
    });

    t1.setOnCheckedChangeListener(new CompoundButton.OnCheckedChangeListener() {
        @Override
        public void onCheckedChanged(CompoundButton compoundButton, boolean b) {

            switchFlashLight(b);
        }
    });


}

void chronometer(boolean status) {

    if (status) {
        switchFlashLight(false);

        c1.setOnChronometerTickListener(new Chronometer.OnChronometerTickListener() {

            @Override
            public void onChronometerTick(Chronometer chronometer) {

                counter++;

                if (counter % 5 == 0) {

                    switchFlashLight(false);

                } else {
                    switchFlashLight(true);
                }
            }
        });
    }
    else {
```

```
            switchFlashLight(false);
            c1.stop();
        }
    }

    void switchFlashLight(boolean status){
        try{
            cm.setTorchMode(cameraId, status);
        }catch (CameraAccessException e){
            e.printStackTrace();
        }
    }


    void showFlashError(){

        System.out.println("No Flash Available ...");
    }
}
```

Layout File/s:
activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <ToggleButton
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:id="@+id/t1"
        android:textOff="On"
        android:textOn="Off"
        />

    <ToggleButton
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/t2"
        android:textSize="13sp"
        android:textOn="Disco"
        android:textOff="Disco"
        android:layout_below="@id/t1"
        android:layout_marginTop="24dp"/>
```

```
<Chronometer
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@id/t2"
    android:id="@+id/c1"
    android:gravity="center"
    android:layout_marginTop="24dp"/>


</RelativeLayout
```

Output: