

THREAD - SISTEMAS OPERACIONAIS

Faci Wyden

Elton Alcantara Costa

202304047367

11/09/2024

```
import java.util.concurrent.Semaphore;

public class SistemaDeSemaforos {

    private static final int DURACAO_VERDE = 10_000;
    private static final int DURACAO_AMARELO = 4_000;
    private static final int DURACAO_VERMELHO = 13_000;

    private static Semaphore semaforo1 = new Semaphore(1);
    private static Semaphore semaforo2 = new Semaphore(0);

    public static void main(String[] args) {

        new Thread(new Semaforo(semaforo1, semaforo2)).start();
        new Thread(new Semaforo(semaforo2, semaforo1)).start();
    }

    static class Semaforo implements Runnable {

        private Semaphore meuSemaforo;
        private Semaphore outroSemaforo;

        public Semaforo(Semaphore meuSemaforo, Semaphore outroSemaforo) {

            this.meuSemaforo = meuSemaforo;
            this.outroSemaforo = outroSemaforo;
        }

        @Override
        public void run() {

            while (true) {

                try {
```

```

        meuSemaforo.acquire();

        System.out.println(Thread.currentThread().getName() + " - Verde");
        Thread.sleep(DURACAO_VERDE);

        System.out.println(Thread.currentThread().getName() + " -
Amarelo");

        Thread.sleep(DURACAO_AMARELO);

        System.out.println(Thread.currentThread().getName() + " -
Vermelho");

        Thread.sleep(DURACAO_VERMELHO);

        outroSemaforo.release();

    } catch (InterruptedException e) {
        e.printStackTrace();
    }
}
}
}
}
}

```