

Mar 17, 09 1:10

HardwareData.java

Page 1/1

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/*****
/
/   filename:  HardwareData.java
/
/   description: This program takes care of synchronizing and making the class
/               thread safe.
/
/   author:    Paladino, Zac
/   login id:  cps346-01.16
/
/   class:     CPS 346
/   instructor: Perugini
/   assignment: Homework #5
/
/   assigned:  March 10, 2009
/   due:       March 17, 2009
/
/*****/

class HardwareData {
    private boolean value = false;

    HardwareData (boolean value) {
        this.value = value;
    }

    synchronized boolean get() {
        return value;
    }

    synchronized void set (boolean newValue) {
        value = newValue;
    }

    // must be atomic
    synchronized boolean getAndSet (boolean newValue) {
        boolean oldValue = this.get();
        this.set (newValue);

        return oldValue;
    }

    // must be atomic
    synchronized void swap (HardwareData other) {
        boolean temp = this.get();

        this.set (other.get());
        other.set(temp);
    }
}

```