```
1: // $Id: raceclick.java,v 1.2 2012-05-23 21:31:15-07 - - $
3: //
 4: // Show race conditions between two threads that click an int.
 5: // Unsynchronized clicking the counter 1000000 times each.
 6: //
7:
8: import static java.lang.System.*;
 9:
10: class raceclick {
11:
12:
       static class counter {
13:
          int count = 0;
14:
       }
15:
16:
       static class racer implements Runnable {
17:
          int ident;
18:
          counter counted;
19:
          racer (int idinit, counter countinit) {
20:
             ident = idinit;
21:
             counted = countinit;
22:
23:
          public void run () {
             out.printf ("racer %d starting%n", ident);
24:
25:
             out.flush();
             for (int itor = 0; itor < 1000000; ++itor) ++counted.count;
26:
             out.printf ("racer %d finished, count = %d%n",
27:
28:
                          ident, counted.count);
29:
             out.flush();
30:
          }
31:
       }
32:
33:
       public static void main (String[] args) {
34:
          out.printf ("main starting%n");
35:
          out.flush();
36:
          counter counted = new counter ();
37:
          Thread racer1 = new Thread (new racer (1, counted));
38:
          Thread racer2 = new Thread (new racer (2, counted));
39:
          racer1.start ();
40:
          racer2.start ();
          out.printf ("main finished, count = %d%n", counted.count);
41:
          out.flush();
42:
43:
       }
44:
45: }
46:
47: //TEST// runprog -x raceclick.lis raceclick
48: //TEST// mkpspdf raceclick.ps raceclick.java* raceclick.lis
49:
```

08/12/13 19:32:58

## \$cmps109-wm/Examples/wk08a-java-threads/raceclick.java.log

- 1: \* @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@ mkc: starting raceclick.java
- 2: \* raceclick.java: \$Id: raceclick.java,v 1.2 2012-05-23 21:31:15-07 -
- 3: \$
- 4: \* javac -Xlint raceclick.java
- 5: \* jar cfm raceclick Manifest raceclick\$counter.class
- 6: raceclick\$racer.class raceclick.class
- 7: \* chmod +x raceclick
- 8: \* rm -f raceclick\$counter.class raceclick\$racer.class raceclick.class

39:

```
1:
3: log: raceclick.log
6:
     1 Script : /afs/cats.ucsc.edu/courses/cmps012b-wm/bin/runprog
7:
               0 max core file size (KB)
     3 limit f: 4194303 max output file size (KB)
8:
     4 limit t : 4294967295 max CPU time (sec)
9:
     5 stdin : /dev/null
6 stdout : raceclick.out
10:
11:
     7 stderr : raceclick.err
12:
13:
    8 log
           : raceclick.log
14:
    9 listing : raceclick.lis
    10 Command: raceclick
15:
    11 starting: pid 9347: 19:32:58.00
16:
17:
    12 finished: pid 9347: 19:32:58.00, real 0.00, user 0.10, sys 0.02
18:
    13 pstatus: 0x0000 EXIT STATUS = 0
19:
21: stdin: /dev/null
23:
24:
26: stdout: raceclick.out
28:
29:
     1 main starting
30:
     2 main finished, count = 0
     3 racer 1 starting
31:
     4 racer 2 starting
5 racer 2 finished, count = 1067957
32:
33:
34:
     6 racer 1 finished, count = 1985035
35:
37: stderr: raceclick.err
```