

```
1: // $Id: raceclick.cpp,v 1.16 2014-05-30 22:45:27-07 - - $
2:
3: // Hello to threads.
4:
5: #include <iostream>
6: #include <thread>
7: #include <vector>
8: using namespace std;
9:
10: constexpr size_t LOOPS = 1000000;
11:
12: void racer (size_t id, size_t* counter) {
13:     cout << "racer " << id << " looping " << LOOPS << " times" << endl;
14:     for (size_t i = 0; i < LOOPS; ++i) ++*counter;
15:     cout << "racer " << id << " finished counter " << *counter << endl;
16: }
17:
18: int main () {
19:     size_t counter {0};
20:     cout << "main starting" << endl;
21:     vector<thread> vecthr;
22:     for (size_t i = 0; i < 4; ++i) {
23:         vecthr.push_back (thread (racer, i, &counter));
24:     }
25:     for (auto& t: vecthr) t.join();
26:     cout << "main finished counter " << counter << endl;
27:     return 0;
28: }
29:
30: //TEST// alias TIME='/usr/bin/time -f "%E elapsed, %S kernel, %U user"'
31: //TEST// for i in 1 2 3 4
32: //TEST// do
33: //TEST//     TIME raceclick >raceclick.out$i 2>&1
34: //TEST// done
35: //TEST// more raceclick.out* >raceclick.lis </dev/null
36: //TEST// mkpspdf raceclick.ps raceclick.cpp* raceclick.lis
37:
```

[illegible]

```
1: ::::::::::::::
2: raceclick.out1
3: ::::::::::::::
4: main starting
5: racer 0 looping 1000000 times
6: racer 2 looping 1000000 times
7: racer 1 looping 1000000 times
8: racer 3 looping 1000000 times
9: racer 3 finished counter 911915
10: racer 0 finished counter 1412573
11: racer 1 finished counter 1506262
12: racer 2 finished counter 2046278
13: main finished counter 2046278
14: 0:00.01 elapsed, 0.00 kernel, 0.04 user
15: ::::::::::::::
16: raceclick.out2
17: ::::::::::::::
18: main starting
19: racer 0 looping 1000000 times
20: racer 1 looping 1000000 times
21: racer 3 looping 1000000 times
22: racer 2 looping 1000000 times
23: racer 0 finished counter 1038483
24: racer 2 finished counter 1176719
25: racer 1 finished counter 1376648
26: racer 3 finished counter 1402614
27: main finished counter 1402614
28: 0:00.02 elapsed, 0.00 kernel, 0.07 user
29: ::::::::::::::
30: raceclick.out3
31: ::::::::::::::
32: main starting
33: racer 0 looping 1000000 times
34: racer 1 looping 1000000 times
35: racer 2 looping 1000000 times
36: racer 3 looping 1000000 times
37: racer 0 finished counter 952579
38: racer 3 finished counter 1076429
39: racer 2 finished counter 1178908
40: racer 1 finished counter 1276545
41: main finished counter 1276545
42: 0:00.01 elapsed, 0.00 kernel, 0.06 user
43: ::::::::::::::
44: raceclick.out4
45: ::::::::::::::
46: main starting
47: racer 0 looping 1000000 times
48: racer 1 looping 1000000 times
49: racer racer 2 looping 1000000 times
50: 3 looping 1000000 times
51: racer 2 finished counter 914030
52: racer 1 finished counter 1226768
53: racer 3 finished counter 1374860
54: racer 0 finished counter 1869458
55: main finished counter 1869458
56: 0:00.02 elapsed, 0.00 kernel, 0.06 user
```