```
1  #include <stdio.h>
2  #include <stdlib.h>
3  #include <unistd.h>
4  #include <pthread.h>
5
6  // race condition example
7
8  int n=100000;
9
10 pthread_mutex_t mutex;
11
12 int num=0;
13 void* run(void * arg){
14   for(int i=0;i<n;i++){
15
16     pthread_mutex_lock(&mutex);  // check -S compilation option to see assembler code
17     num++;
18     pthread_mutex_unlock(&mutex);   // try without mutex :)
19   }
20   return NULL;
21 }
22
23 int main(int arg, char* argv[])
24 {
25   pthread_t thid0,thid1;
26   pthread_mutex_init(&mutex,NULL);
27
28   int ris = pthread_create(&thid0, NULL, &run, NULL);
29   if (ris){
30     printf("errore creazione thread\n");
31     exit(-1);
32   }
33   ris = pthread_create(&thid1, NULL, &run, NULL);
34   if (ris){
35     printf("errore creazione thread\n");
36     exit(-1);
37   }
38   pthread_join(thid0, NULL);
39   pthread_join(thid1, NULL);
40   pthread_mutex_destroy(&mutex);
41   printf("num=%d\n", num);
42 }
43
```