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#include <pthread.h>
#include <stdio.h>

#define FALSE 0
#define TRUE 1
#define N 2

/* Shared Variables */
int turn;          /* Tracks who's turn it is */
int interested[N]; /* Tracks who's interested in CS */
int total;

void f(int *process); void enter_CS(int process); void leave_CS(int process);

int main()
{
    pthread_t t1, t2;
    int i, a=0, b=1;

    for(i=0; i<N; i++) interested[i]=0;

    pthread_create(&t1, NULL, (void *)f, (void *)&a );
    pthread_create(&t2, NULL, (void *)f, (void *)&b );
    pthread_join(t1, NULL); pthread_join(t2, NULL);

    printf("total=%d\n", total);
    return 0;
}

void f(int *proc)
{
    int i,tmp;
    for( i=0; i<100000; i++ )
    {
        enter_CS(*proc);
        tmp = total; tmp = tmp + 1; total = tmp;
        leave_CS(*proc);
    }
}

void enter_CS(int proc)
{
    int other = 1 - proc;
    interested[proc] = TRUE;
    turn = proc;
    while( (turn==proc) && (interested[other]==TRUE));
}

void leave_CS(int proc)
{
    interested[proc] = FALSE;
}

```