```c
/**
 * Homework 2: Parallel, binary max function
 *
 * CS4414 Operating Systems
 * Fall 2017
 *
 * Maurice Wong — mzw7af
 *
 * barrier.h — header file for barrier primitive
 *
 */

#ifndef BARRIER_H
#define BARRIER_H
#include <semaphore.h>

typedef struct barrier {
    int size;
    int counter;
    sem_t waitq; // original barrier that collects threads until release
    sem_t waitq2; // secondary barrier to hold threads until full reset
    sem_t mutex;
} barrier;

void initBarrier(barrier *b, int size);
void waitBarrier(barrier *b);

#endif
```