```c
#include <stdio.h>
#include <pthread.h>
#include <semaphore.h>
sem_t mutex, writeBlock;
int data = 0, readersCount = 0;
void* reader(void *arg){
    for(int i=0;i<10;i++){
        sem_wait(&mutex);
        readersCount++;
        if(readersCount==1)
            sem_wait(&writeBlock);
        sem_post(&mutex);
        printf("Reader reads data: %d\n", data);
        sem_wait(&mutex);
        readersCount--;
        if(readersCount==0)
            sem_post(&writeBlock);
        sem_post(&mutex);
    }
    return NULL;
}
```

```c
void* writer(void *arg){
    for(int i=0;i<10;i++){
        sem_wait(&writeBlock);
        data++;
        printf("Writer writes data: %d\n", data);
        sem_post(&writeBlock);
    }
    return NULL;
}
int main(){
    pthread_t readerThread, writerThread;
    sem_init(&mutex,0,1);
    sem_init(&writeBlock,0,1);
    pthread_create(&readerThread,NULL,reader,NULL);
    pthread_create(&writerThread,NULL,writer,NULL);
    pthread_join(readerThread,NULL);
    pthread_join(writerThread,NULL);
    sem_destroy(&mutex);
    sem_destroy(&writeBlock);
    return 0;
}
```

```
Reader reads data: 0
Writer writes data: 1
Reader reads data: 1
Writer writes data: 2
Reader reads data: 2
Writer writes data: 3
Reader reads data: 3
Writer writes data: 4
Reader reads data: 4
Writer writes data: 5
Reader reads data: 5
Writer writes data: 6
Reader reads data: 6
Writer writes data: 7
Reader reads data: 7
Writer writes data: 8
Reader reads data: 8
Writer writes data: 9
Reader reads data: 9
Writer writes data: 10

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Process exited after 9.831 seconds with return value 0
Press any key to continue . . .
```