

```

void parallelDo(int n, void *f(void *), void *arg[]){
    int ii;
    Barrier b = new Barrier(n);
    for (ii = 0; ii < n; ii++){
        pthread_create(&t[i], stub, f, arg[i], b);
    }
    b->waitToDone();
}

```

```

void *stub(void *f(void*), void *arg, Barrier b){
    (*f)(arg);
    b->done();
}

```

```

class Barrier{
private
    int max;
    int done;
    pthread_mutex_t mutex;
    pthread_cond_t allDone;
public:
    Barrier(int max);
    void waitToDone();
    void done();
};

```

```

Barrier::Barrier(int max_){
    max = max_;
    done = 0;
    pthread_cond_init(&allDone);
    pthread_mutex_init(&mutex);
}

```

```

void Barrier::done(){
    pthread_mutex_acquire(&mutex);
    done++;
    if(done == max){
        pthread_cond_signal(&allDone);
    }
    pthread_mutex_release(&mutex);
}

```

```

void Barrier::waitToDone(){
    pthread_mutex_acquire(&mutex);
    while(done < max){
        pthread_cond_wait(&allDone, &mutex);
    }
    pthread_mutex_release(&mutex);
}

```