The Dining Philosophers Problem

With One Mutex

```
1   #define N 5
2   semaphore mutex=1;
3
4   void philosopher(int i)
5   {
6     while (TRUE) {
7       think();
8       wait(&mutex);
9         take_fork(i);
10        take_fork((i+1) % N);
11        eat();
12        put_fork(i);
13        put_fork((i+1) % N);
14      signal(&mutex);
15    }
16  }
```