```c
#define N 5                     /* number of philosophers */
#define LEFT (i+N-1)%N          /* number of i's left neighbor */
#define RIGHT (i+1)%N           /* number of i's right neighbor */
#define THINKING 0              /* philosopher is thinking */
#define HUNGRY 1                /* philosopher is trying to get forks */
#define EATING 2                /* philosopher is eating */
typedef int semaphore;
int state[N];                   /* state of everyone */
semaphore mutex = 1;            /* for critical regions */
semaphore s[N];                 /* one semaphore per philosopher */

void philosopher(int i)  /* i: philosopher number, from 0 to N-1 */
{
  while(TRUE) {
    think();
    take_forks(i); /* acquire two forks or block */
    eat();
    put_forks(i);  /* put both forks back on table */
  }
}
```