```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 */
     }
}
```