

Programiz
C Online Compiler

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main.c

Run

Share

Clear

```
1 #include <stdio.h>
2 #include <stdlib.h>
3 #include <pthread.h>
4 #include <semaphore.h>
5
6 #define NUM_PHILOSOPHERS 5
7
8 sem_t forks[NUM_PHILOSOPHERS];
9
10 void *philosopher(void *arg) {
11     int id = *(int *)arg;
12     int left = id;
13     int right = (id + 1) % NUM_PHILOSOPHERS;
14
15     printf("Philosopher %d is thinking.\n", id);
16
17     sem_wait(&forks[left]);
18     sem_wait(&forks[right]);
19
20     printf("Philosopher %d is eating.\n", id);
21     sleep(1);
22
23     sem_post(&forks[right]);
24     sem_post(&forks[left]);
25
26     printf("Philosopher %d is done eating and thinking again.\n", id);
27 }
```

Output

Philosopher 0 is thinking.
Philosopher 1 is thinking.
Philosopher 2 is thinking.
Philosopher 3 is thinking.
Philosopher 4 is thinking.
Philosopher 0 is eating.
Philosopher 1 is eating.
Philosopher 2 is eating.
Philosopher 0 is done eating and thinking again.
Philosopher 3 is eating.
Philosopher 1 is done eating and thinking again.
Philosopher 4 is eating.
...
All philosophers are done.

Watchlist

IDEAS

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ENG IN

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```
Child wrote to shared memory.  
Parent reads: Hello from child process!
```