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(globals)

TDM-GCC 4.9.2 64-bit Release

Project Classes Debug   [*] Untitled1   [*] process.cpp   round robin.cpp   inter-process communication.cpp   dining philosopher.cpp

```c
1    #include<stdio.h>
2    #include<stdlib.h>
3    #include<pthread.h>
4    #include<semaphore.h>
5    #include<unistd.h>
6
7    sem_t room;
8    sem_t chopstick[5];
9
10   void * philosopher(void *);
11   void eat(int);
12   int main()
13   {
14       int i,a[5];
15       pthread_t tid[5];
16
17       sem_init(&room,0,4);
18
19       for(i=0;i<5;i++)
20           sem_init(&chopstick[i],0,1);
21
22       for(i=0;i<5;i++){
23           a[i]=i;
24           pthread_create(&tid[i],NULL,philosopher,(void *)&a[i]);
25       }
26       for(i=0;i<5;i++)
27           pthread_join(tid[i],NULL);
28   }
29
30   void * philosopher(void * num)
31   {
32       int phil=*(int *)num;
33
34       sem_wait(&room);
35       printf("\nPhilosopher %d has entered room",phil);
```

ne: 29   Col: 1   Sel: 0   Lines: 52   Length: 912   Insert   Done parsing in 0.094 seconds

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(globals)

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Project   Classes   Debug   [*] Untitled1   [*] process.cpp   round robin.cpp   inter-process communication.cpp   dining philosopher.cpp

```cpp
19        for(i=0;i<5;i++)
20            sem_init(&chopstick[i],0,1);
21
22        for(i=0;i<5;i++){
23            a[i]=i;
24            pthread_create(&tid[i],NULL,philosopher,(void *)&a[i]);
25        }
26        for(i=0;i<5;i++)
27            pthread_join(tid[i],NULL);
28    }
29
30    void * philosopher(void * num)
31    {
32        int phil=*(int *)num;
33
34        sem_wait(&room);
35        printf("\nPhilosopher %d has entered room",phil);
36        sem_wait(&chopstick[phil]);
37        sem_wait(&chopstick[(phil+1)%5]);
38
39        eat(phil);
40        sleep(2);
41        printf("\nPhilosopher %d has finished eating",phil);
42
43        sem_post(&chopstick[(phil+1)%5]);
44        sem_post(&chopstick[phil]);
45        sem_post(&room);
46    }
47
48    void eat(int phil)
49    {
50        printf("\nPhilosopher %d is eating",phil);
51    }
52
```

ne: 29   Col: 1   Sel: 0   Lines: 52   Length: 912   Insert   Done parsing in 0.094 seconds

```
C:\Users\kadiv\OneDrive\Documents\dining philosopher.exe

Philosopher 0 has entered room
Philosopher 0 is eating
Philosopher 3 has entered room
Philosopher 3 is eating
Philosopher 1 has entered room
Philosopher 2 has entered room
Philosopher 3 has finished eating
Philosopher 0 has finished eating
Philosopher 4 has entered room
Philosopher 4 is eating
Philosopher 2 is eating
Philosopher 4 has finished eating
Philosopher 2 has finished eating
Philosopher 1 is eating
Philosopher 1 has finished eating
-----------------------------------
Process exited after 6.077 seconds with return value 0
Press any key to continue . . . _
```