

```

1  /*****
2  * The Main program with the two functions. A simple
3  * example of creating and using a thread is provided.
4  *****/
5
6  #include "helper.h"
7  #include <iostream>
8  #include <pthread.h>
9  #include <semaphore.h>
10 #include <unistd.h>
11 #include <stdlib.h>
12 #include <time.h>
13 #include <queue>
14
15 //job class
16 class Job{
17 public:
18     int id;
19     int duration;
20     Job(int id, int duration){
21         this->id = id;
22         this->duration = duration;
23     }
24 };
25
26 //global variables
27 int q_size;
28 int numProducers;
29 int numConsumers;

```

```

-:--- main.cc      Top L11   Git:master (C++//1 Abbrev)
[*- mode: compilation; default-directory: "~/Desktop/producerconsumer/" *-
Compilation started at Mon Dec 12 13:09:27

```

make -k

make: Nothing to be done for 'all'.

Compilation finished at Mon Dec 12 13:09:27

```

nr522@curve02:producerconsumer$ ./main 5 6 2 3
Producer(1): Job id 0 duration 4
Consumer(1): No more jobs left
Producer(2): Job id 0 duration 7
Consumer(2): Job id 0 executing sleep duration 4
Consumer(3): Job id 0 executing sleep duration 7
Producer(2): Job id 1 duration 4
Producer(2): Job id 2 duration 7
Producer(1): Job id 1 duration 10
Consumer(2): Job id 1 executing sleep duration 4
Producer(1): Job id 2 duration 3
Producer(2): Job id 3 duration 1
Consumer(3): Job id 2 executing sleep duration 7
Consumer(2): Job id 1 executing sleep duration 10
Producer(1): Job id 3 duration 4
Producer(2): Job id 4 duration 1
Producer(1): Job id 4 duration 7
Producer(1) stopped because of timeout
Producer(1): No more jobs to generate.
Producer(2) stopped because of timeout
Producer(2): No more jobs to generate.
Consumer(3): Job id 2 executing sleep duration 3
Consumer(3): Job id 3 executing sleep duration 1
Consumer(2): Job id 3 executing sleep duration 4
Consumer(3): Job id 4 executing sleep duration 1
Consumer(3): Job id 4 executing sleep duration 7
Consumer(2): No more jobs left
Consumer(3): No more jobs left

```