

```

1  #include <stdio.h>
2  #include <stdlib.h>
3  #include <unistd.h>
4  #include <pthread.h>
5  #include "ProdCons.h"
6  // Compile with: gcc ProdCons.c main.c -lpthread -o prod-sample
7
8  Queue * q;
9
10 void * producer(void *arg){
11     int i = 0;
12     for (i = 0; i < 1000; i++){
13         char * s = malloc(50*sizeof(char));
14         sprintf(s, "Elem-%d", rand());
15         Queue_insert(q, (void*) s );
16     }
17     printf("Inserted all. Waiting 1 second for consumer to extract.\n");
18     sleep(1);
19     exit(0);
20 }
21
22 void * consumer(void *arg){
23     int i = 1;
24     while (1){
25         char * item = (char*) Queue_extract(q);
26         printf("Extracted item %d: '%s'\n", i, item);
27         free(item);
28         i++;
29     }
30 }
31
32 int main(int argc, char *argv[]){
33     pthread_t t;
34     q = Queue_init(10);
35     pthread_create(&t, NULL, producer, NULL);
36     consumer(NULL);
37     Queue_destroy(q);
38     return 0;
39 }

```