

```

1  #define N 100  /* number of slots in the buffer */
2  void producer(void)
3  {
4      int item;
5      message m;          /* message buffer */
6      while (TRUE) {
7          item = produce_item();  /* generate something to put in buffer */
8          receive(consumer, &m);  /* wait for an empty to arrive */
9          build_message(&m, item); /* construct a message to send */
10         send(consumer, &m);      /* send item to consumer */
11     }
12 }
13
14 void consumer(void)
15 {
16     int item, i;
17     message m;
18     for (i=0; i<N; i++) send(producer, &m);  /* send N empties */
19     while (TRUE) {
20         receive(producer, &m);  /* get message containing item */
21         item = extract_item(&m); /* extract item from message */
22         send(producer, &m);      /* send back empty reply */
23         consume_item(item);      /* do something with the item */
24     }
25 }

```