

```

1 monitor ProducerConsumer
2     condition full, empty;
3     integer count;
4
5     procedure insert(item: integer);
6     begin
7         if count = N then wait(full);
8         insert_item(item);
9         count := count + 1;
10        if count = 1 then signal(empty)
11    end;
12
13    function remove: integer;
14    begin
15        if count = 0 then wait(empty);
16        remove = remove_item;
17        count := count - 1;
18        if count = N - 1 then signal(full)
19    end;
20    count := 0;
21 end monitor;

```

```

1 procedure producer;
2 begin
3     while true do
4     begin
5         item = produce_item;
6         ProducerConsumer.insert(item)
7     end
8 end;
9
10 procedure consumer;
11 begin
12     while true do
13     begin
14         item = ProducerConsumer.remove;
15         consume_item(item)
16     end
17 end;

```