

producer

```
{
  synchronized (buffer)
  {
    while (buffer.full)
    {
      buffer.wait();
    }
    buffer.put(data);

    buffer.empty = false;
    if (buffer.size() == N)
      buffer.full = true;

    buffer.notify();
  } // release the lock
}
```

consumer

```
{
  synchronized (buffer)
  {
    while (buffer.empty)
    {
      buffer.wait();
    }
    data = buffer.get();

    buffer.full = false;
    if (buffer.size == 0)
      buffer.empty = true;

    buffer.notify();
  } // release the lock
}
```

check lock

check lock

lock queue

own lock

own lock

own lock

own lock

notify

lose lock

lose lock

monitor queue
(wait set)

signal

signal