

```

void append (char x)
{
    while(count == N) cwait(notfull);    /* buffer is full; avoid overflow */
    buffer[nextin] = x;
    nextin = (nextin + 1) % N;
    count++;                             /* one more item in buffer */
    cnotify(notempty);                   /* notify any waiting consumer */
}

void take (char x)
{
    while(count == 0) cwait(notempty); /* buffer is empty; avoid underflow */
    x = buffer[nextout];
    nextout = (nextout + 1) % N;
    count--;                             /* one fewer item in buffer */
    cnotify(notfull);                   /* notify any waiting producer */
}

```

Figure 5.20 Bounded Buffer Monitor Code for Mesa Monitor