

```

chan token[1:n](), enter[1:n](), go[1:n](), exit[1:n]();

process Helper[i = 1 to n] {
  while (true) { # loop invariant DMUTEX
    receive token[i](); # wait for token
    if (not empty(enter[i])) { # does user want in?
      receive enter[i](); # accept enter msg
      send go[i](); # give permission
      receive exit[i](); # wait for exit
    }
    send token[i%n + 1](); # pass token on
  }
}

process User[i = 1 to n] {
  while (true) {
    send enter[i](); # entry protocol
    receive go[i]();
    critical section;
    send exit[i](); # exit protocol
    non-critical section;
  }
}

```

Figure 9.15 Mutual exclusion with a token ring.