



- ▶ Version 10.1
- ▶ Synchronising Threads
- ▶ Semaphore Example

Semaphore Example

A semaphore to control a number of resources can be implemented by keeping that number of tokens in the pool. Each thread will take a token while processing, and return it to the pool when it has finished.

For example, if we want to restrict the number of threads that can have sockets open at any one time.

```
sock←99 ∧ socket-token (any +ive number wil  
l do).
```

```
□TPUT 5/sock ∧ add 5 socket-tokens to pool.
```

```
▽ sock_open ...
```

```
[1] :If sock=□TGET sock ∧ grap a socket token  
[.] ... ∧ do stuff.  
[.] □TPUT sock ∧ release socket token  
[.] :Else  
[.] error'sockets off' ∧ sockets switched  
off by retract (see below).  
[.] :EndIf
```

```
▽
```

```
0 □TPUT □treq □tnums ∧ retract socket "serv  
ice" with 0 value.
```

Dyalog Ltd

South Barn
Minchens Court
Minchens Lane
Bramley
Hampshire
RG26 5BH
United Kingdom

Phone:

+ 44 (0) 1256 830 030

Fax:

+ 44 (0) 1256 830 031

e-mail:

sales@dyalog.com