

Algorithm – Perfect Failure Detector P

Algorithm 1 Exclude on Timeout

Implements:

PerfectFailureDetector, **instance** P .

Uses:

PerfectPointToPointLink, **instance** $pp2p$.

```
1: upon event  $\langle Init \rangle$  do
2:    $alive := \Pi$ 
3:    $detected := \emptyset$ 
4:   STARTTIMER( $\Delta$ )
5: upon event  $\langle Timeout \rangle$  do
6:   for all  $p \in \Pi$  do
7:     if  $(p \notin alive) \wedge (p \notin detected)$  then
8:        $detected := detected \cup \{p\}$ 
9:       trigger  $\langle P, Crash \mid p \rangle$ 
10:    trigger  $\langle pp2p, Send \mid p, [HEARTBEATREQUEST] \rangle$ 
11:    $alive := \emptyset$ 
12:   STARTTIMER( $\Delta$ )
13: upon event  $\langle pp2p, Deliver \mid p, [HEARTBEATREQUEST] \rangle$  do
14:   trigger  $\langle pp2p, Send \mid p, [HEARTBEATREPLY] \rangle$ 
15: upon event  $\langle pp2p, Deliver \mid p, [HEARTBEATREPLY] \rangle$  do
16:    $alive := alive \cup \{p\}$ 
```
