

## MP1: Solution Outline

MyFD is a fully distributed failure detector for crash-stop/fail-stop failures. The system should work for at least 4 machines and it should be able to detect 2 simultaneous failures with time bounded completeness (10 seconds). One possible design is to organize the 4 machines in a ring structure and have each machine send heartbeats to the left and right neighbors. This ensures that upto 2 simultaneous failures will be detected reliably while minimizing the bandwidth usage. Figure 1 presents this extended ring topology. Note that, an all-to-all heartbeating scheme is not acceptable as it is not efficient in terms of bandwidth usage.

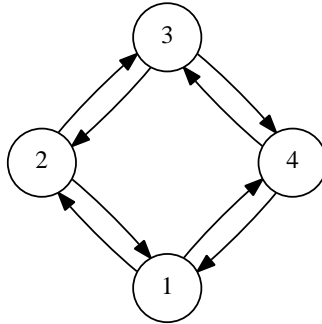


Figure 1: Extended ring topology