

## Exercise Session

### GM and VSC

#### Problem 1

Show that  $P$  is the weakest failure detector for Group Membership.

*The failure detector  $D$  is weakest for solving some problem  $A$  (e.g., Consensus or NBAC) if  $D$  provides the smallest amount of information about failures that allows to solve  $A$ .*

#### Problem 2

In this problem we will change the *view-synchronous communication (VSC)* abstraction in order to allow joins of new processes. Answer to the following questions:

1. Are the properties of VSC (as given in the class) suitable to accommodate the joins of new processes.  
Why / Why not?
2. Change the properties of VSC, so that they allow for implementations that support the joins of new processes.  
Hint: focus on the properties of group membership
3. Sketch the changes we need to perform on the Consensus-based (Algorithm II) implementation of VSC in order to support joins.