

Solution to Exercise 5.1

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Binary Consensus

Some processes *propose* values (0 or 1) and eventually *decide* some values (0 or 1).

Validity Every value decided is a value proposed

Agreement No two processes decide different value

Wait-freedom Every correct process that proposes a value eventually decides a value.

Binary Consensus from Write-Once Registers

We use a single write-once register r :

```
upon propose(v)
  r.write(v)
  return r.read()
```