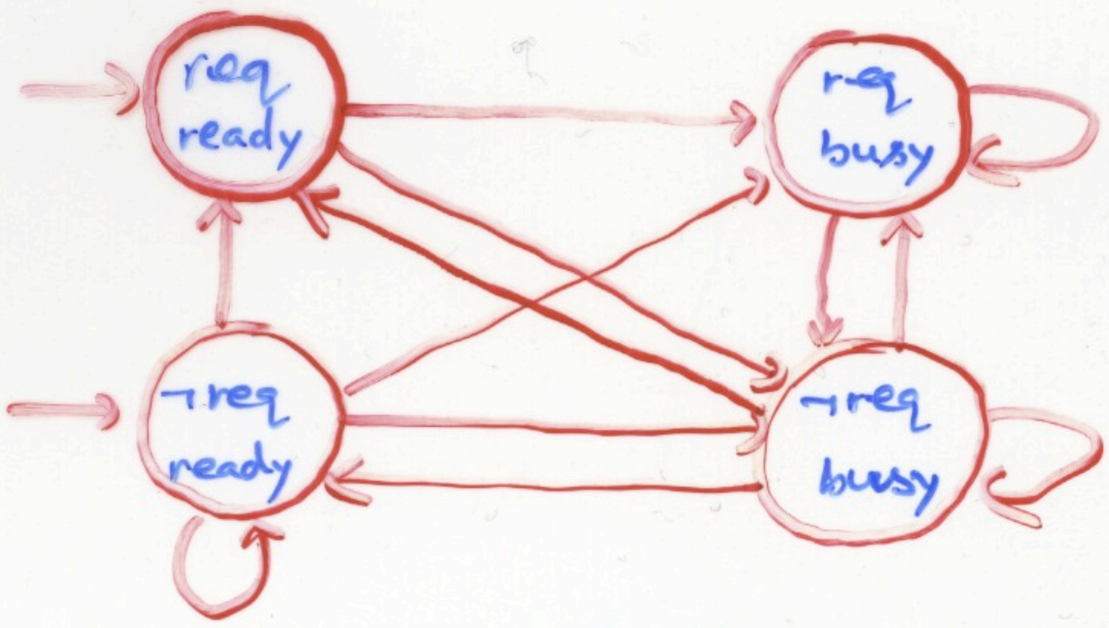
NuSMV ("New" Symbolic Model Verifier)

- NuSMV program consists of modules; one of which must be "main".
  Modules declare variables (VAR) and assign (ASSIGN) values to them
  Assignment usually give initial (init(·)) and next (next(·)) values
  Next value may be non-unique (allowing for non-determinism).
- Specification/fairness is also specified within a module.

```
MODULE main
VAR
    request : boolean;
    status  : {ready, busy};
ASSIGN
    init(status) := ready;
    next(status) := case
                    request   : busy;
                    1         : {ready, busy};
                    esac;
LTLSPEC  G(request → F(status = busy))
```

The above SMV program represents the following model:



when "request" is true, transition to any state with "status = busy".
Otherwise, transition to any state (state with "status = ready" or "status = busy").

- LTL specification is one with only temporal operators.
  (initial path operator "A" is omitted.)
- AND ≡ &; OR ≡ |; NOT ≡ !; IMPLIES ≡ →.