

NuSMV (continued)

- NuSMV supports breaking down systems into several modules. Generic modules may be defined once, and instances of those can be created via VAR declarations in MAIN module.
- By default modules executed synchronously (with each "tick" of a logical clock, each module is advanced one-step); "process" keyword may be used for asynchronous execution (in which case only one non-deterministically chosen process-module is executed on each clock tick).

MODULE main

VAR

```

pr1 : process prc(pr1.st, turn, 0);
pr2 : process prc(pr2.st, turn, 1);
turn: boolean

```

ASSIGN

```

init(turn) := 0;

```

MODULE prc(others.st, turn, myturn)

VAR

```

st: {n, t, c};

```

ASSIGN

```

init(st) := n;

```

```

next(st) :=

```

case

```

(st = n)

```

```

(st = t) & (other.st = n)

```

```

(st = t) & (other.st = t) & (turn = myturn) : c;

```

```

(st = c)

```

esac

```

next(turn) :=

```

case

```

turn = myturn & (st = c)

```

↓

esac;

```

: t;

```

```

: c;

```

```

: n;

```

```

: st;

```

```

: !turn;

```

```

: turn;

```

FAIRNESS running

FAIRNESS ! (st = c)