

Mutual Exclusion properties

- Never in critical state together (Safety)

$$AG \neg (pr1.st = c \wedge pr2.st = c)$$

For all paths (A), Globally (G) in all states of a path, it is not the case that state of pr1 and of pr2 is same as c.

- Trying for critical section eventually results in reaching critical

$$AG [(pr1.st = t) \rightarrow F (pr1.st = c)] \wedge$$

$$AG [(pr2.st = t) \rightarrow F (pr2.st = c)].$$

For all paths (A), Globally (G) in all states of a path, if pr1 is in t-state, then in future (F) pr1 is in c-state.

- Process can always try for critical section

$$AG EF (pr1.st = t)$$

For all paths (A), Globally (G) in all state of a path, Exists a path (E) such that in future (F) pr1 is in t-state.