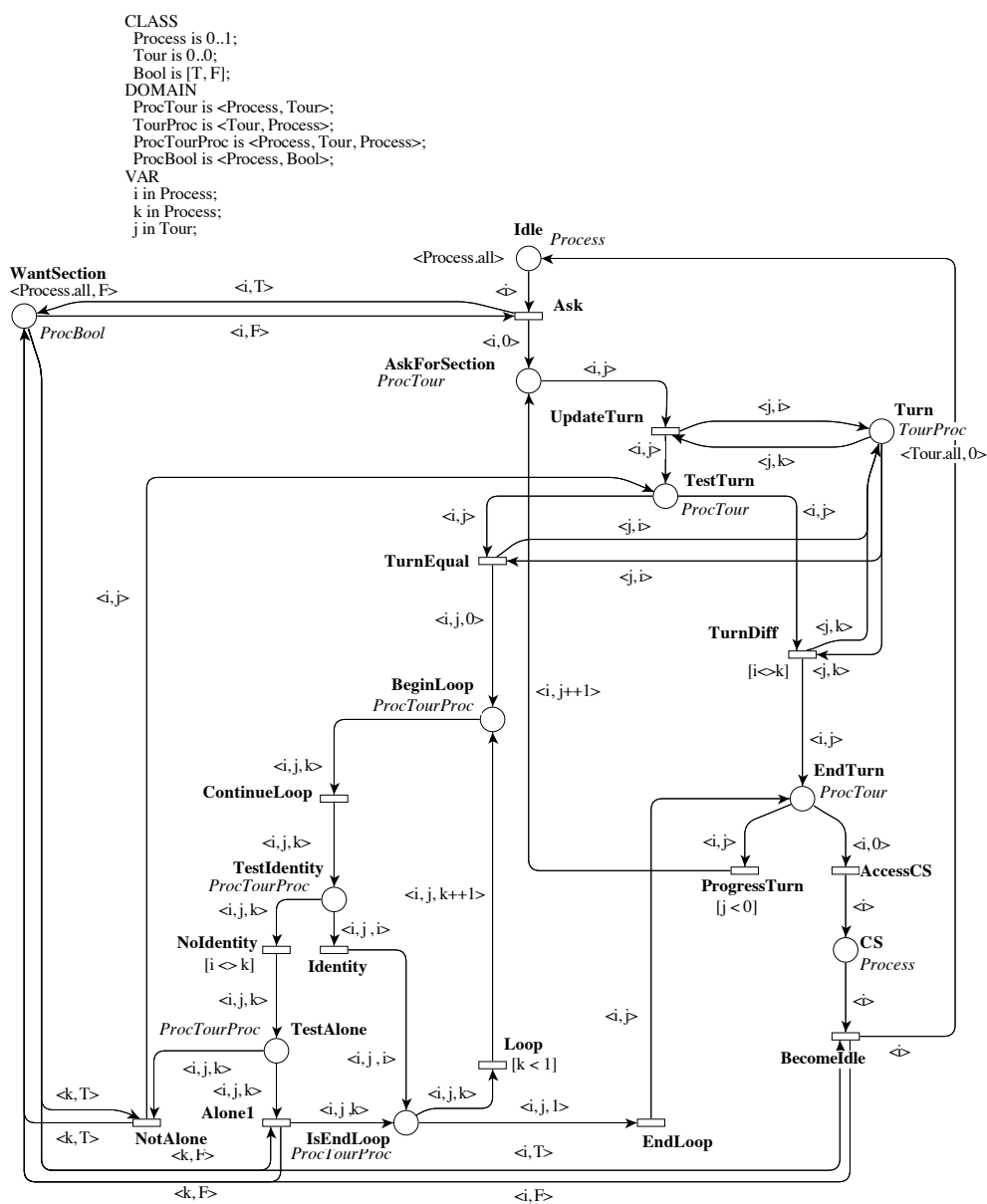


Introduction

This Model form is a short description of the Peterson model that comes, for the Model Checking Contest @ Petri Nets, with: a set of PNML files, a set of properties to be checked (possibly one file per model instance) and an optional set of properties concerning the model (invariants, etc. – possibly one file per model instance). For Coloured Nets, equivalent PNML P/T net files are proposed too.

Peterson



Presentation

Description: This is a model of the Peterson’s algorithm for the mutual exclusion problem, in its generalized version for N processes. This algorithm is based on shared memory communication and uses a loop with N-1 iterations, each iteration is in charge of stopping one of the competing processes.

Origin: <http://dblp.uni-trier.de/rec/bibtex/journals/ip1/Peterson81>

Scaling parameter

Name	Description	Values
N	N is the number of processes. It has an impact on the initial marking of places Idle, Turn and WantSection. It has, also, an impact on the guards of transitions ProgressTurn and Loop. The color functions between EndTurn and AccessCS, as well as the one between IsEndLoop and EndLoop are impacted.	2, 3, 4, 5, 6, 7

Information about the Model

Data on the Model

Number of places	Number of transitions	Number of arcs	Scaling parameter value
11	14	42	all

Stated Properties

safe	✓	free choice	✗	event graph	✗
deadlock	✗	state machine	✗	reversible	✓

Other Properties (not mandatory)