## Introduction

This Model form is a short description of the Philosophers 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.

Philosophers
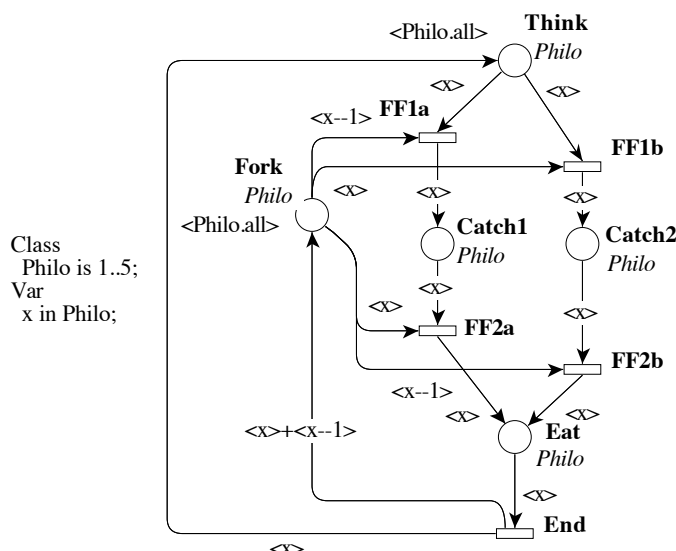
Presentation

Description: This is the famous model that illustrates an inappropriate use of shared resources generating deadlocks. N philosophers share a table with N plates and sticks. They are thinking and, when they need to eat, they go to the table, grab one stick from one side of their plate, then the second from the other side, then eat, and then go back thinking.

Origin: http://dblp.uni-trier.de/rec/bibtex/journals/acta/Dijkstra71

Scaling parameter

Name	Description	Values
N	N is the number of dining philosophers. Initial marking of places Think and Fork are impacted.	5, 10, 20, 50, 100, 200, 500, 1 000, 2 000, 5 000, 10 000, 50 000, 100 000

Information about the Model

Data on the Model

Number of places	Number of transitions	Number of arcs	Scaling parameter value
4	5	15	all

Stated Properties

| safe | ✔ | free choice | ✗ | event graph | ✗ |
| deadlock | ✔ | state machine | ✗ | reversible | ✔ |

Other Properties (not mandatory)