Modelling with Symmetric Nets

Introduction

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- the enabling conditions
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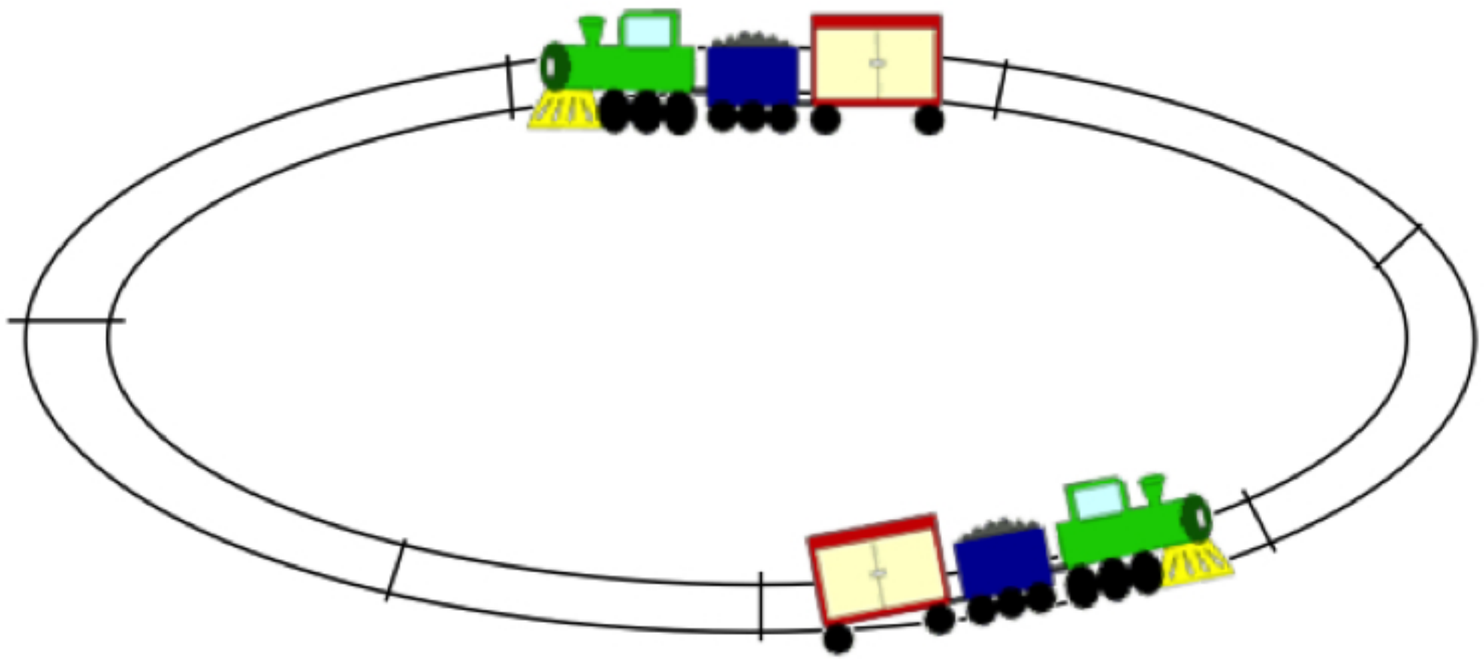
Let's go for a detailed example

Modelling example: the Trains Problem (1/3)

- n_1 trains distributed on a circular track, decomposed into n_2 sections.
- For security reasons, a train can enter a section only if this section and the next one are free.

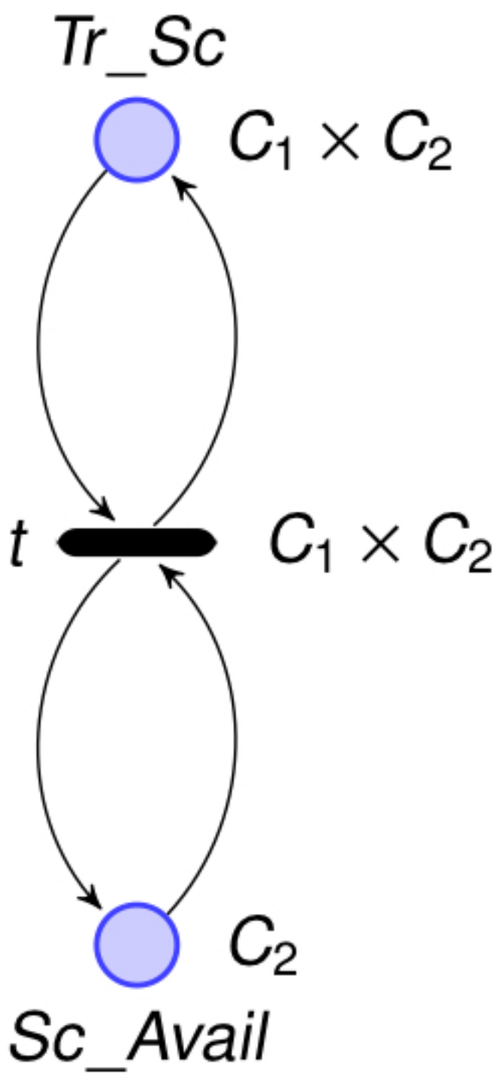


Modelling example: the Trains Problem (2/3)

- **Colour Domains:**
  - $C_1 = \{tr_1, , tr_{n_1}\}$
  - $C_2 = \{sc_1, , sc_{n_2}\}$

- **The architecture:**
  - The system state is given by a set of associations ⟨train nb , section nb⟩.
    → *place Tr_Sc*
  - A free section is a resource that allows for a train to move.
    → *place Sc_Avail*
  - A transition representing the progress of a train.

Modelling example: the Trains Problem (3/3)



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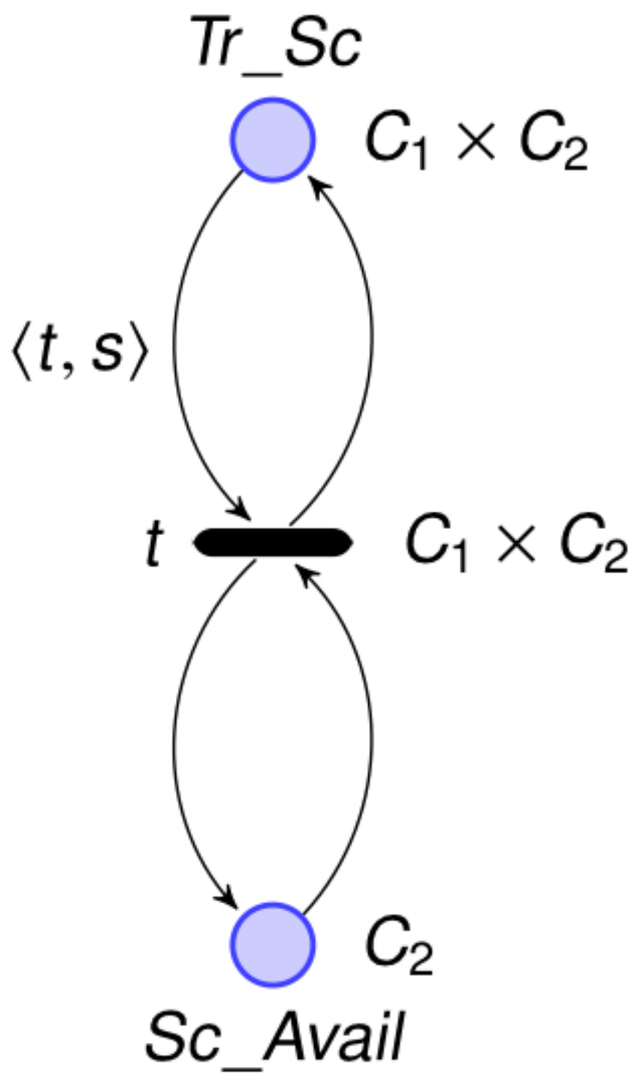

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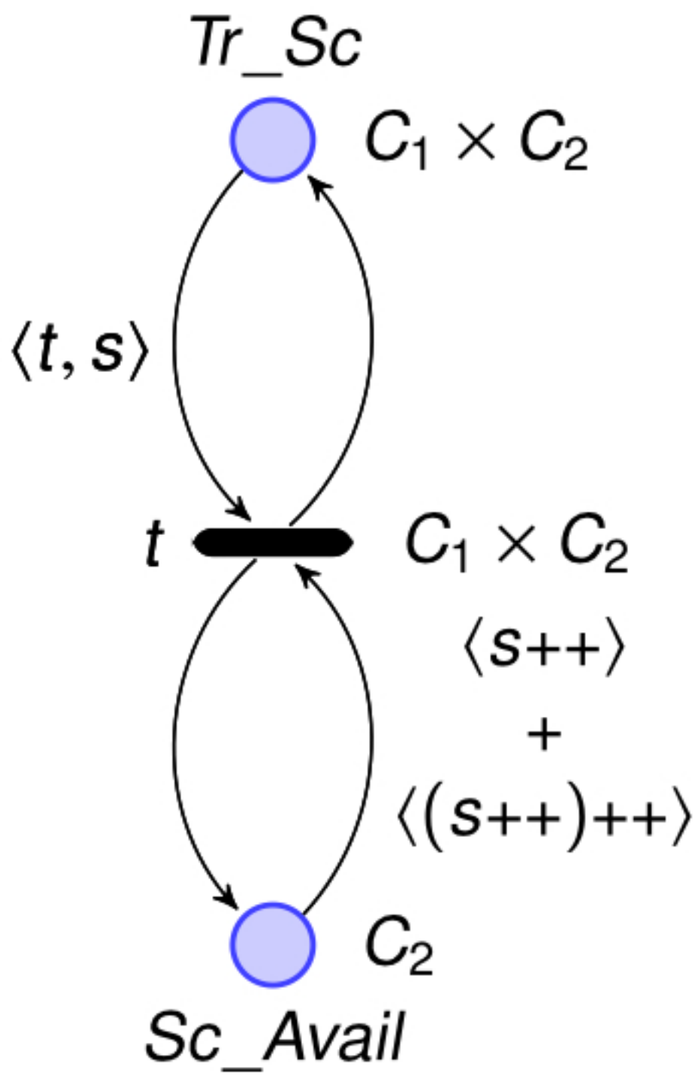

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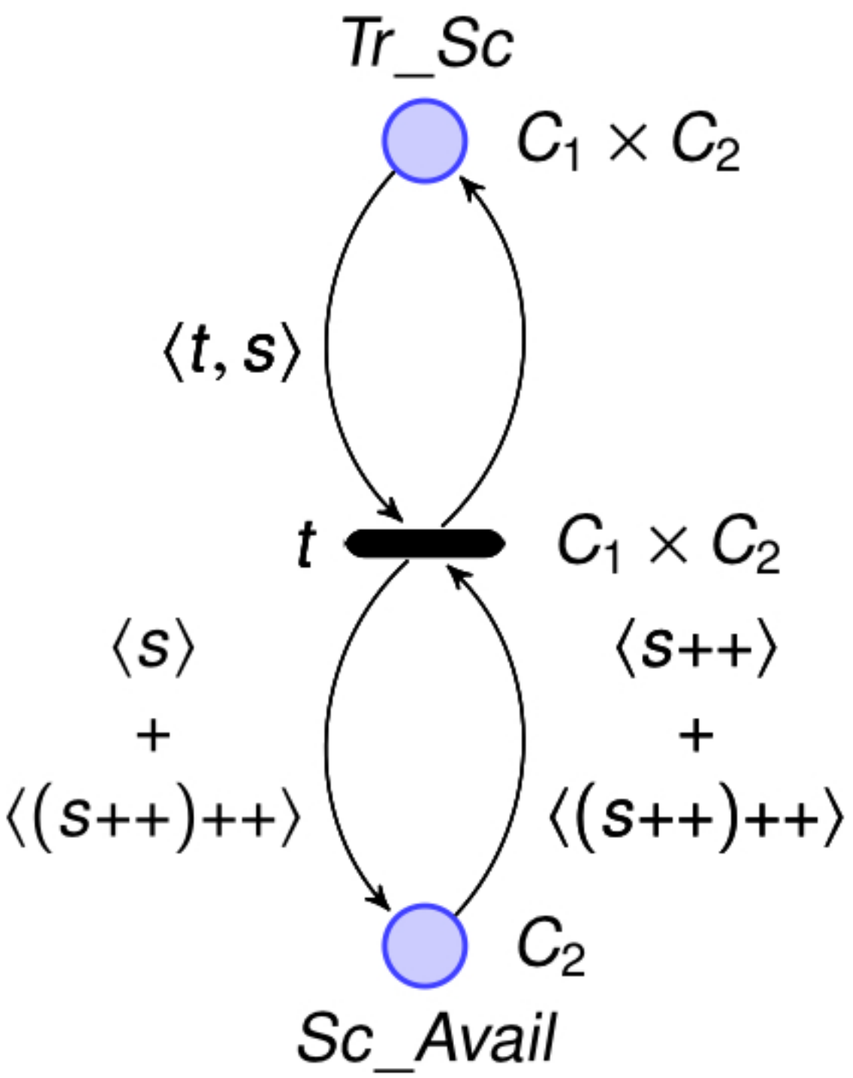

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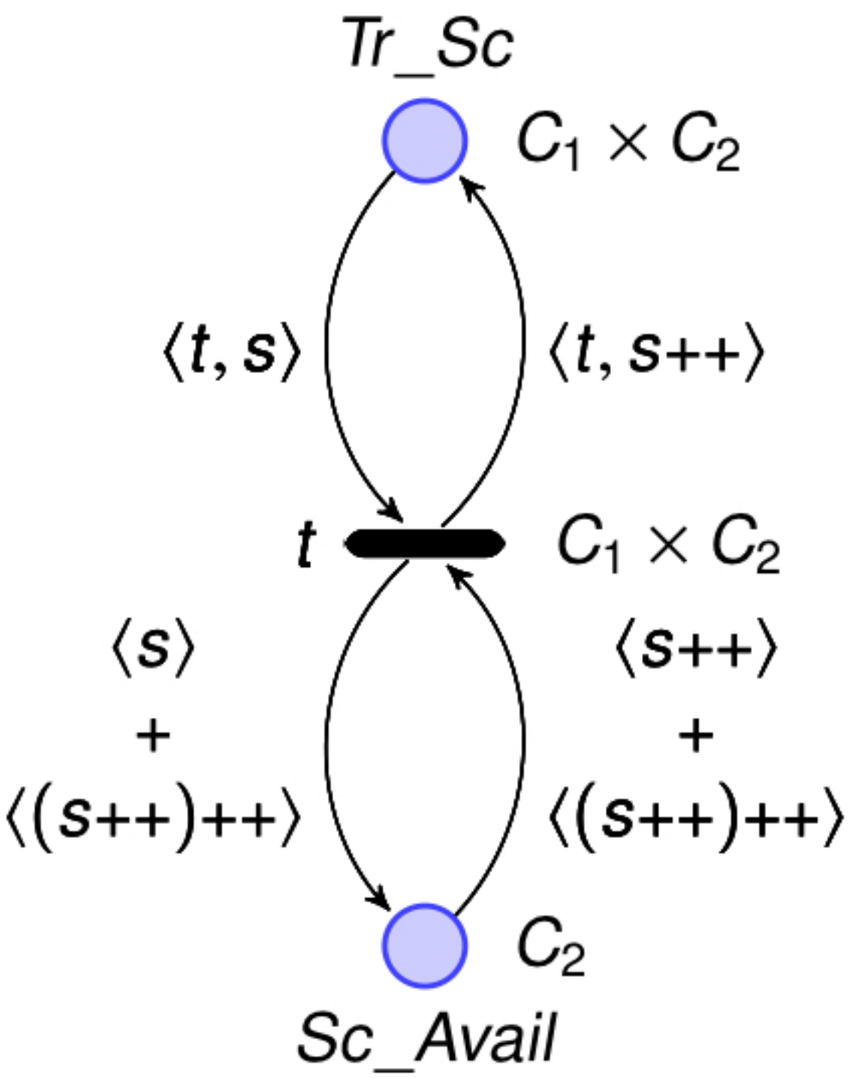

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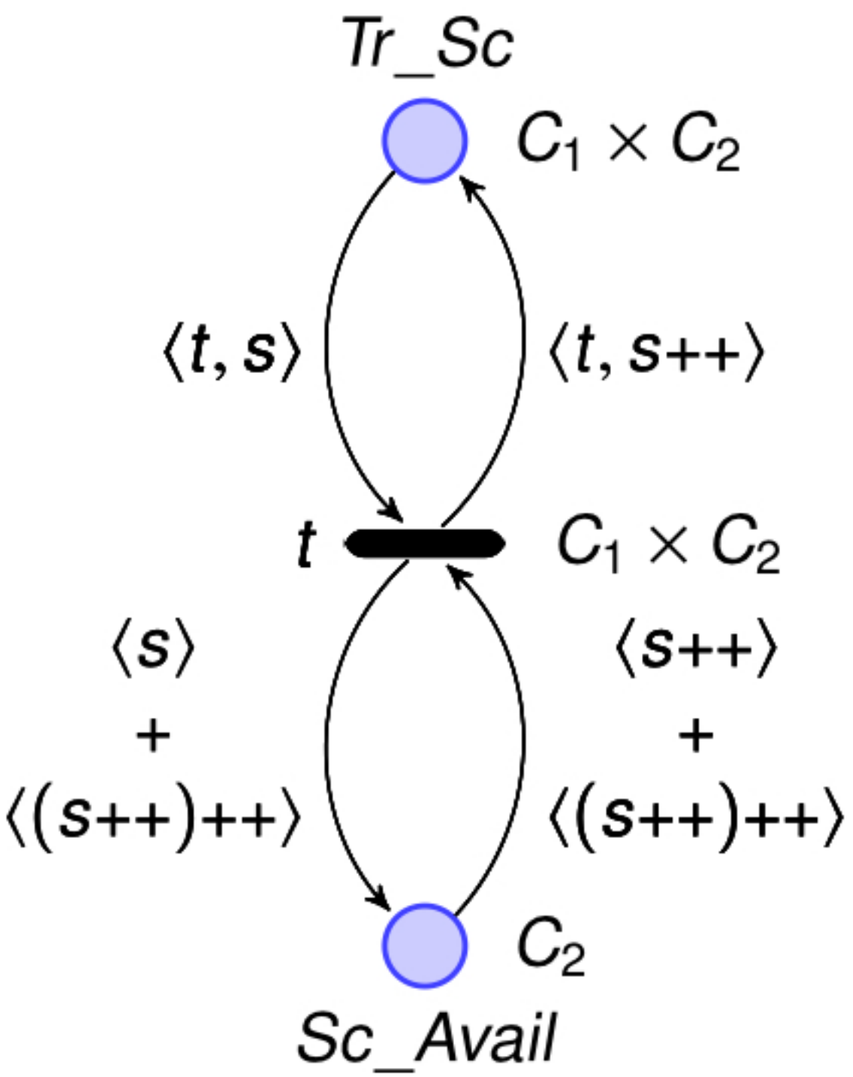

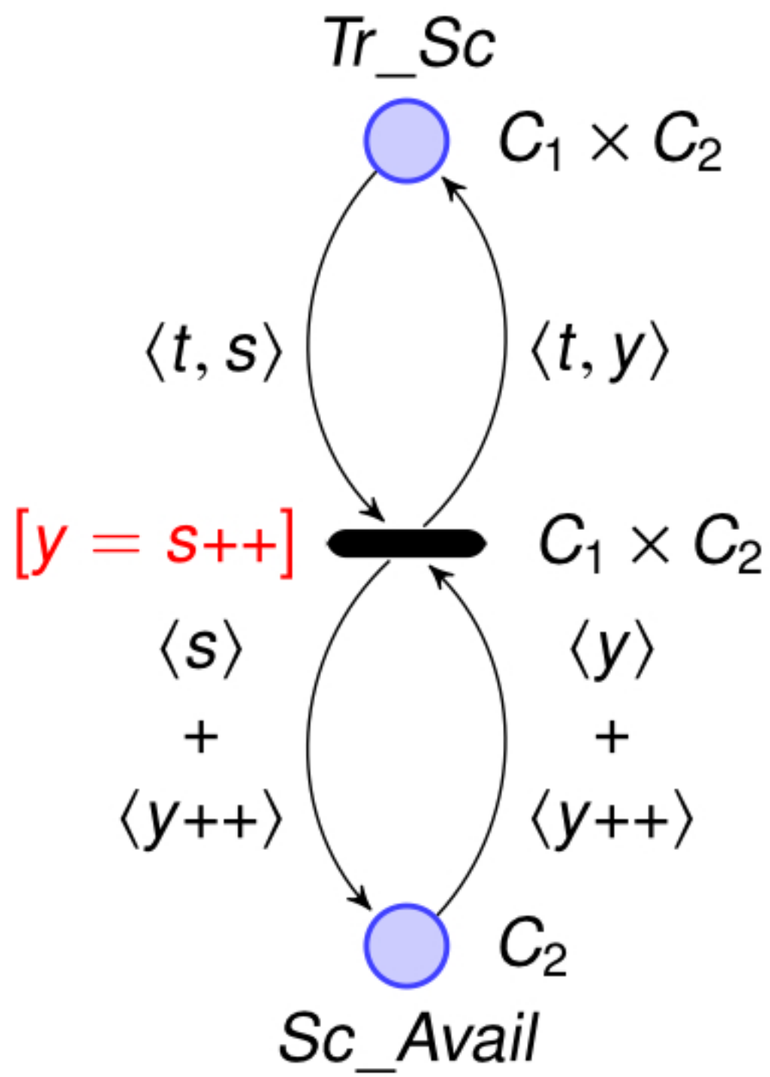

Conclusion

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- you know how to model using Symmetric Nets
- you have seen a comprehensive detailed example

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Let's see the Reachability Graph for analysis (next sequence)