

# Passeio dos Filósofos

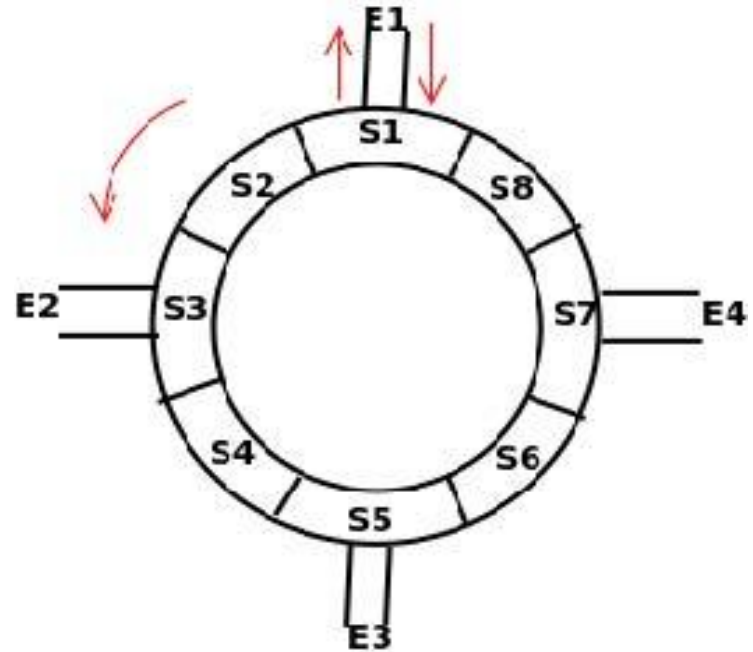
Fernando Battisti, Iago Silvestre, Ígor Yamamoto e Thiago Espindola

# Problema

Considerações Iniciais

## Componentes

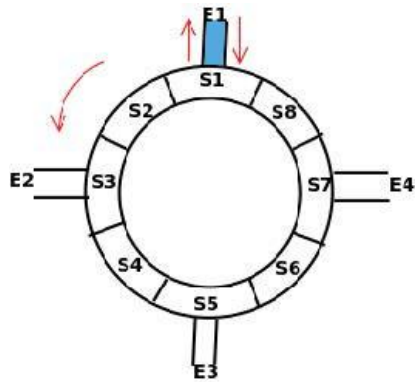
- 8 secções da rótula
- 4 entradas



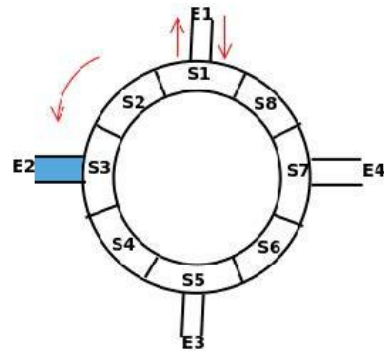
## Considerações sobre o Problema

- Entradas de “mão dupla”
- Chegada à entrada não-controlável
- Destinos conhecidos ao entrar (camadas)
- Pode sair a qualquer momento.

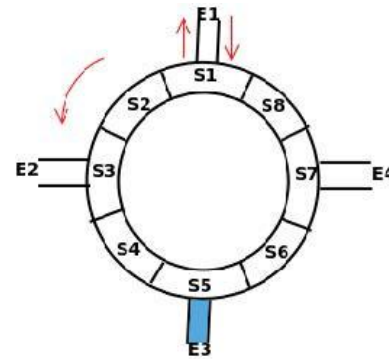
# Camadas



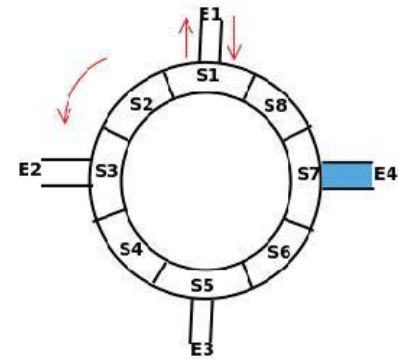
Camada 1



Camada 2



Camada 3



Camada 4

## Eventos do Sistema

- (U)  $ci\_Cj$ : chegada em  $Ei$  com destino a  $Cj$ ;
- (C)  $ei\_Cj$ : entrada na camada  $Cj$  por  $Ei$ ;
- (C)  $pri\_Cj$ : pega recurso  $Si$  na camada  $Cj$ ;
- (C)  $Lri\_Cj$ : libera recurso  $Si$  na camada  $Cj$ ;
- (C)  $sj$ : saída da rótula por  $Ej$ .

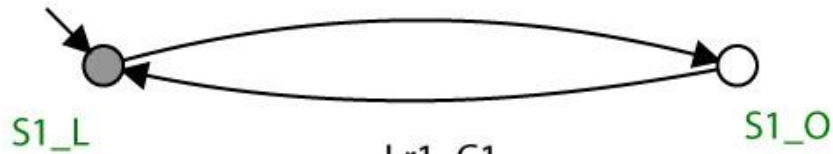
# Planta

Recursos e Entradas

## Secções da Rótula (Recursos)

**S1:**

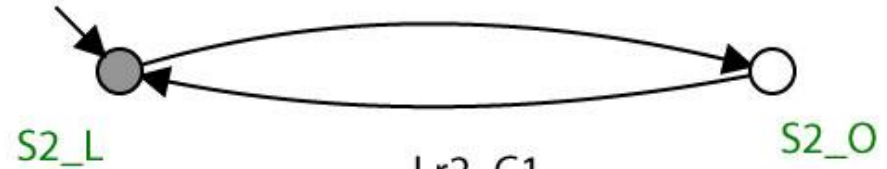
pr1_C1	e1_C1
pr1_C2	e1_C2
pr1_C3	e1_C3
pr1_C4	e1_C4



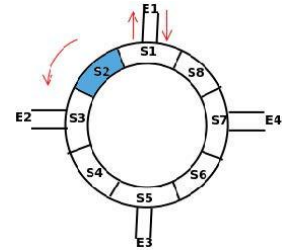
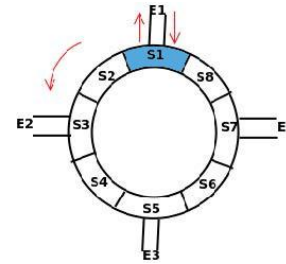
Lr1\_C1  
Lr1\_C2  
Lr1\_C3  
Lr1\_C4  
s1

**S2:**

pr2_C1
pr2_C2
pr2_C3
pr2_C4

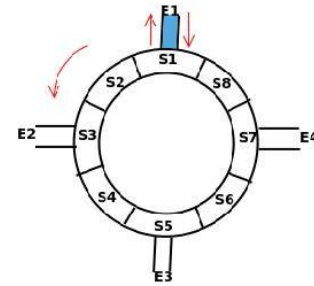


Lr2\_C1  
Lr2\_C2  
Lr2\_C3  
Lr2\_C4



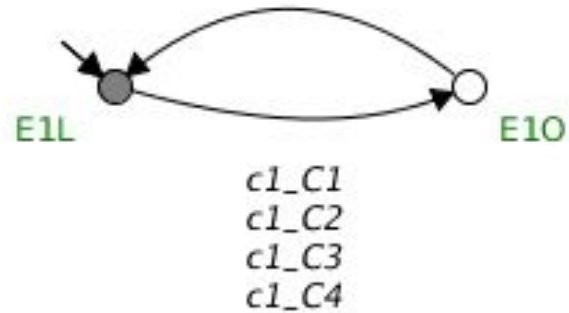


# Entradas



**E1:**

e1\_C1  
e1\_C2  
e1\_C3  
e1\_C4

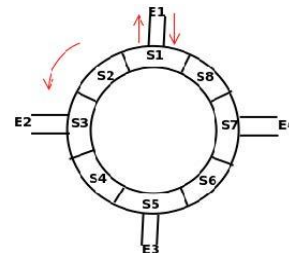


# **Especificações**

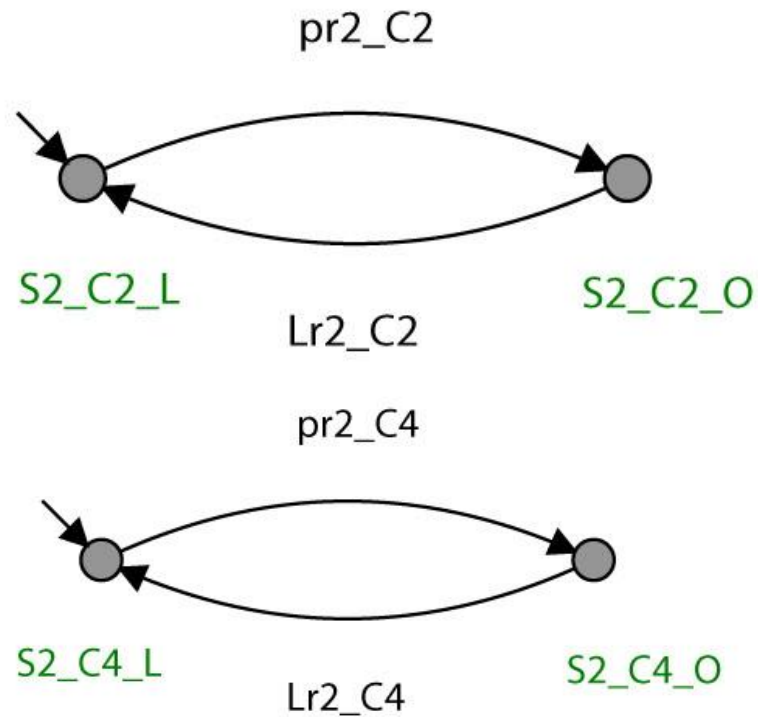
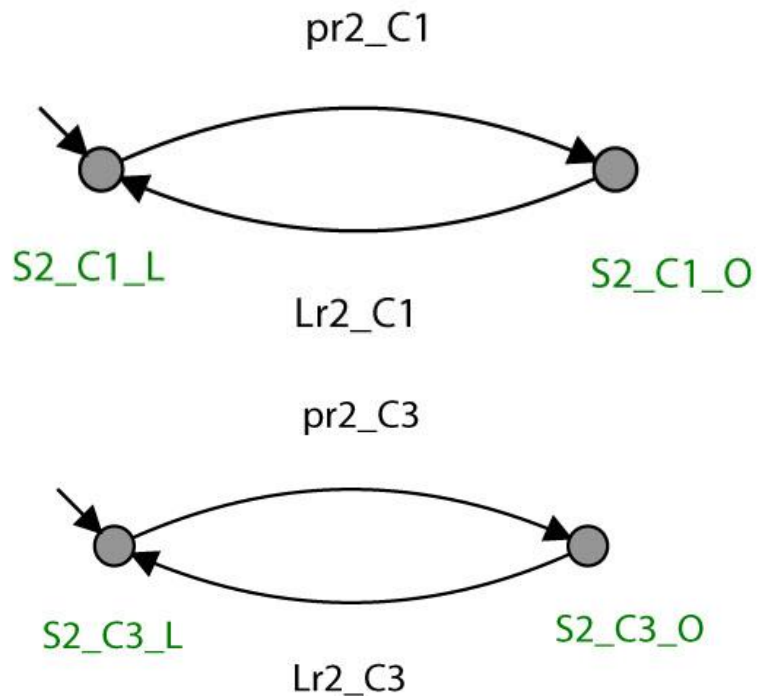
## Propriedades

- Acesso ordenado de recursos
- Exclusão mútua
- Justiça no acesso
- Propriedade de uso, uma vez só
- Liberação de recurso

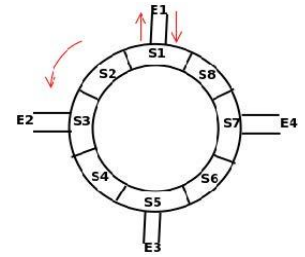
## Diferenciação entre camadas



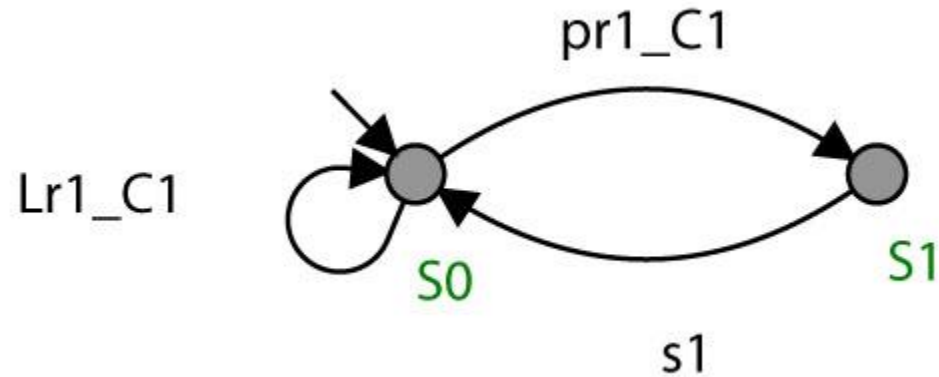
Camada1::S2



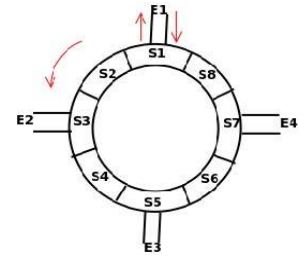
## Saída da Rótula (Justiça no Acesso)



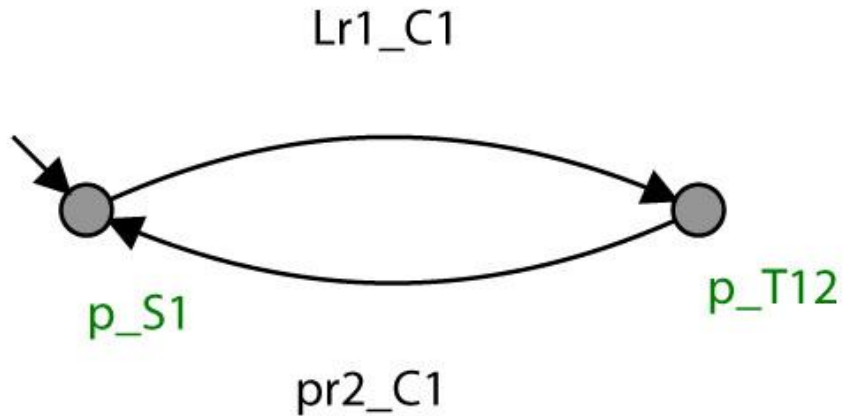
Camada1::Saida\_E1



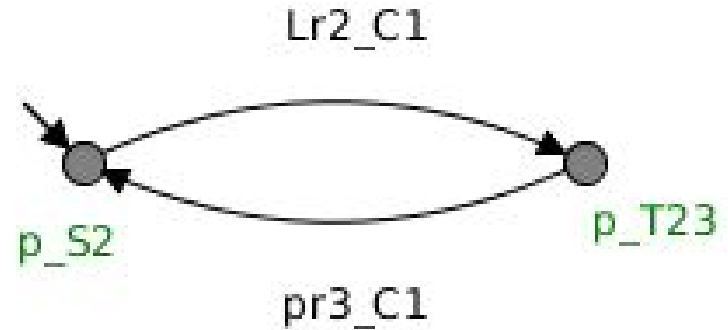
## Acesso Ordenado de Recursos



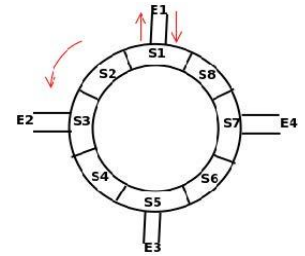
Camada1::Acesso\_S2



Camada1::Acesso\_S3



# Propriedade de Uso

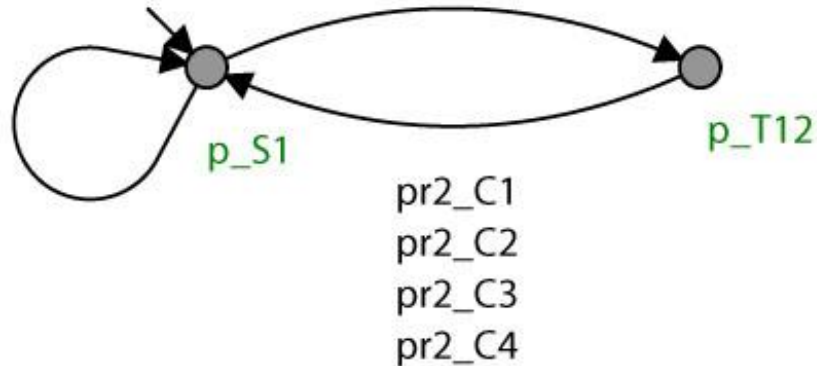


S1::Uso

Lr1\_C1  
Lr1\_C2  
Lr1\_C3  
Lr1\_C4

pr1\_C1  
pr1\_C2  
pr1\_C3  
pr1\_C4

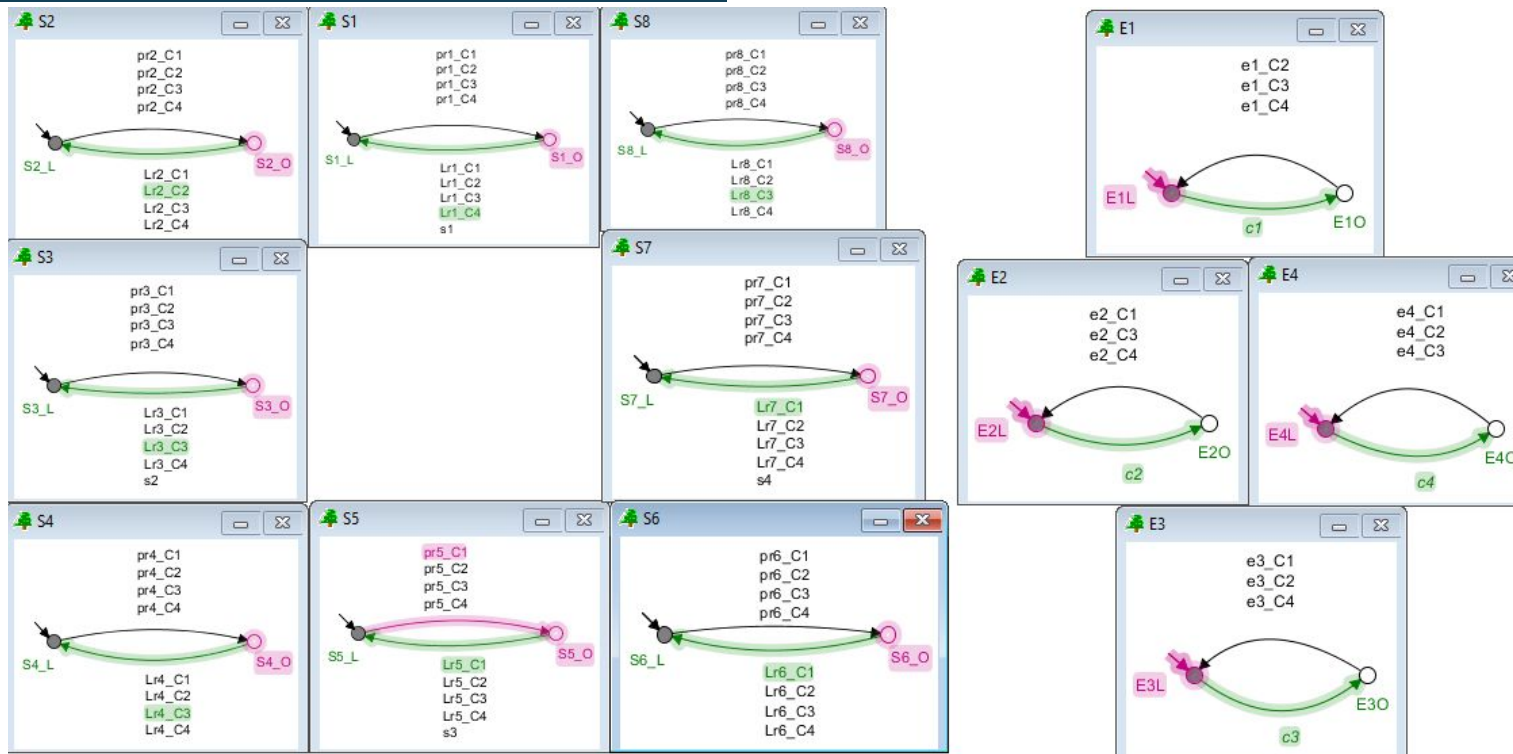
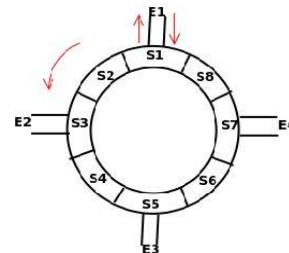
e1\_C1  
e1\_C2  
e1\_C3  
e1\_C4



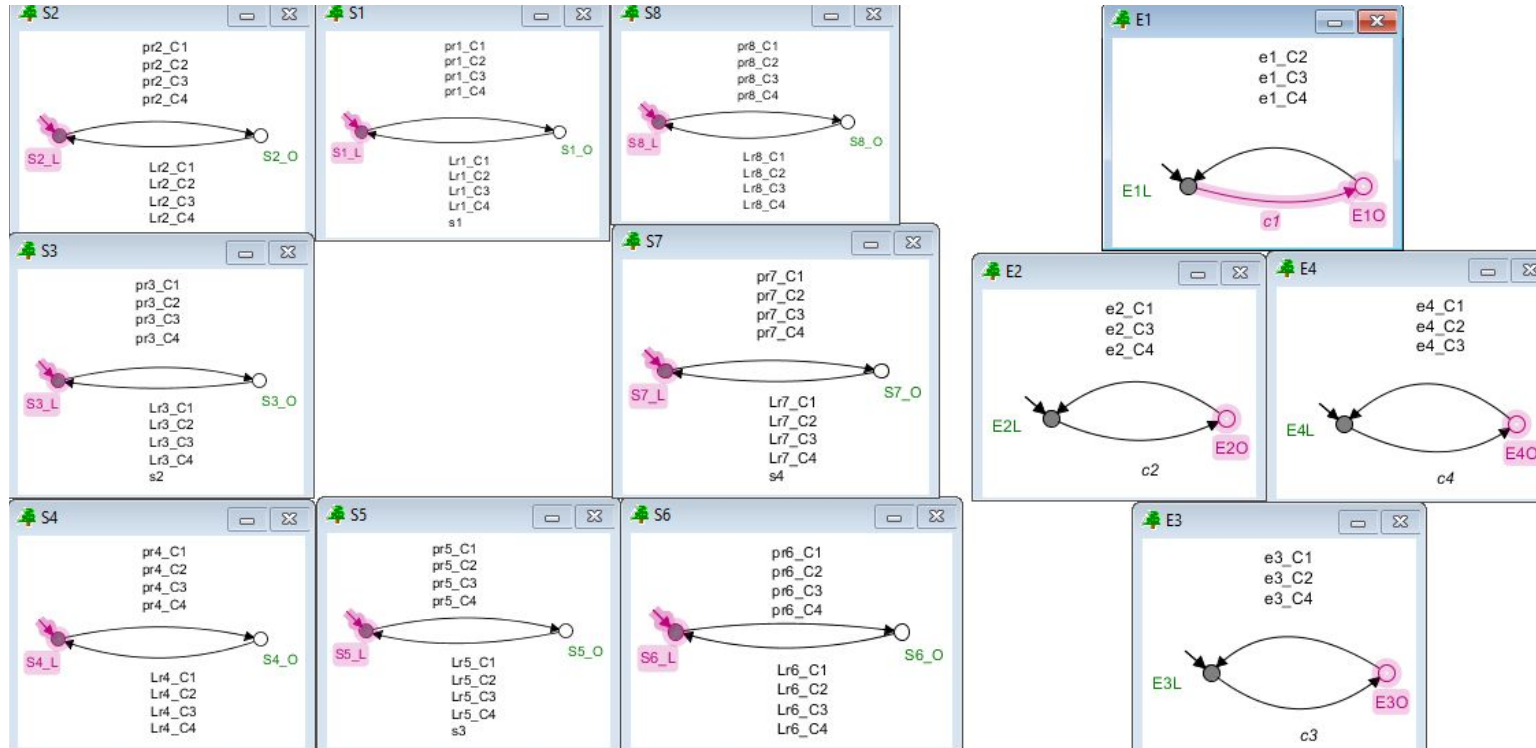
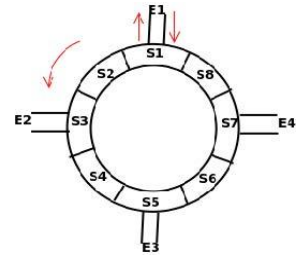
# Simulação



# Gridlock



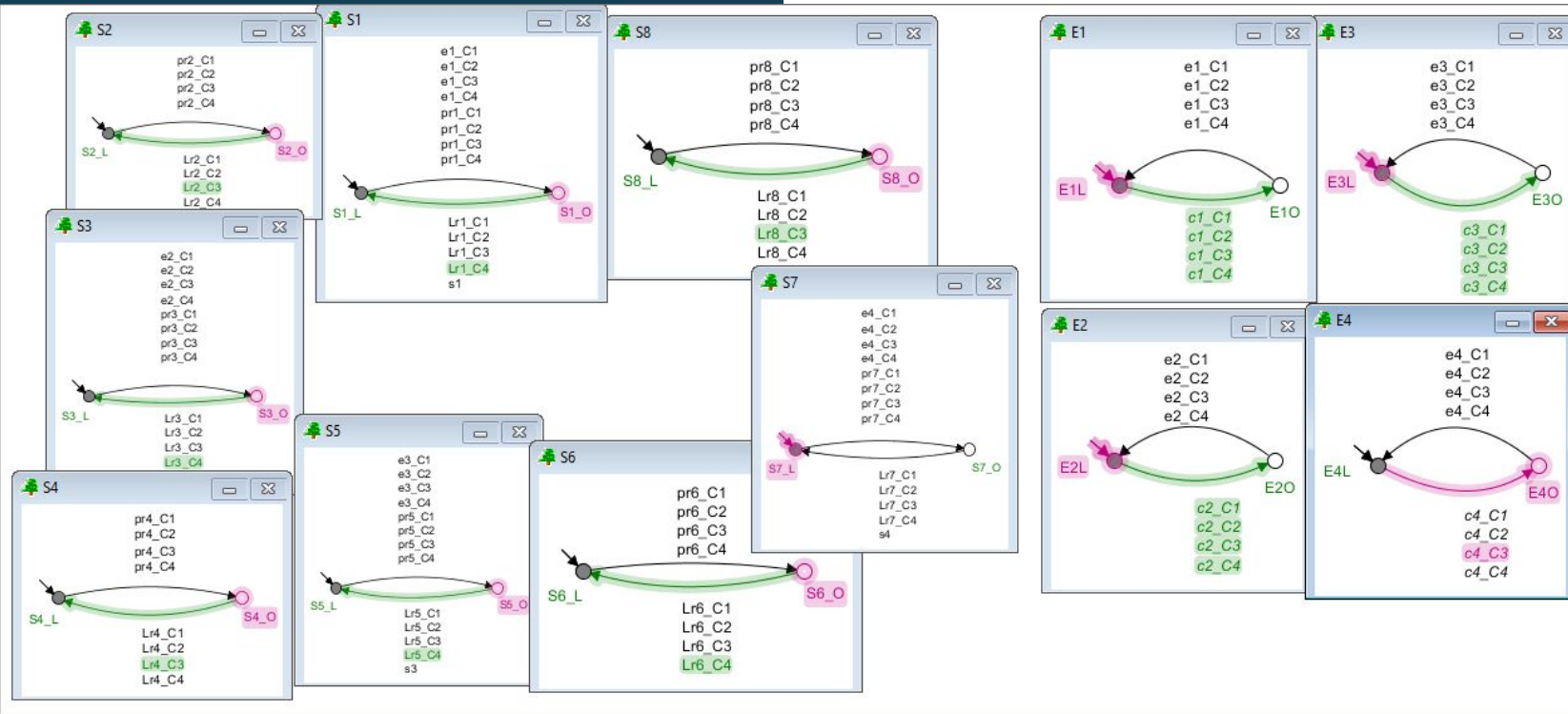
# Gridlock



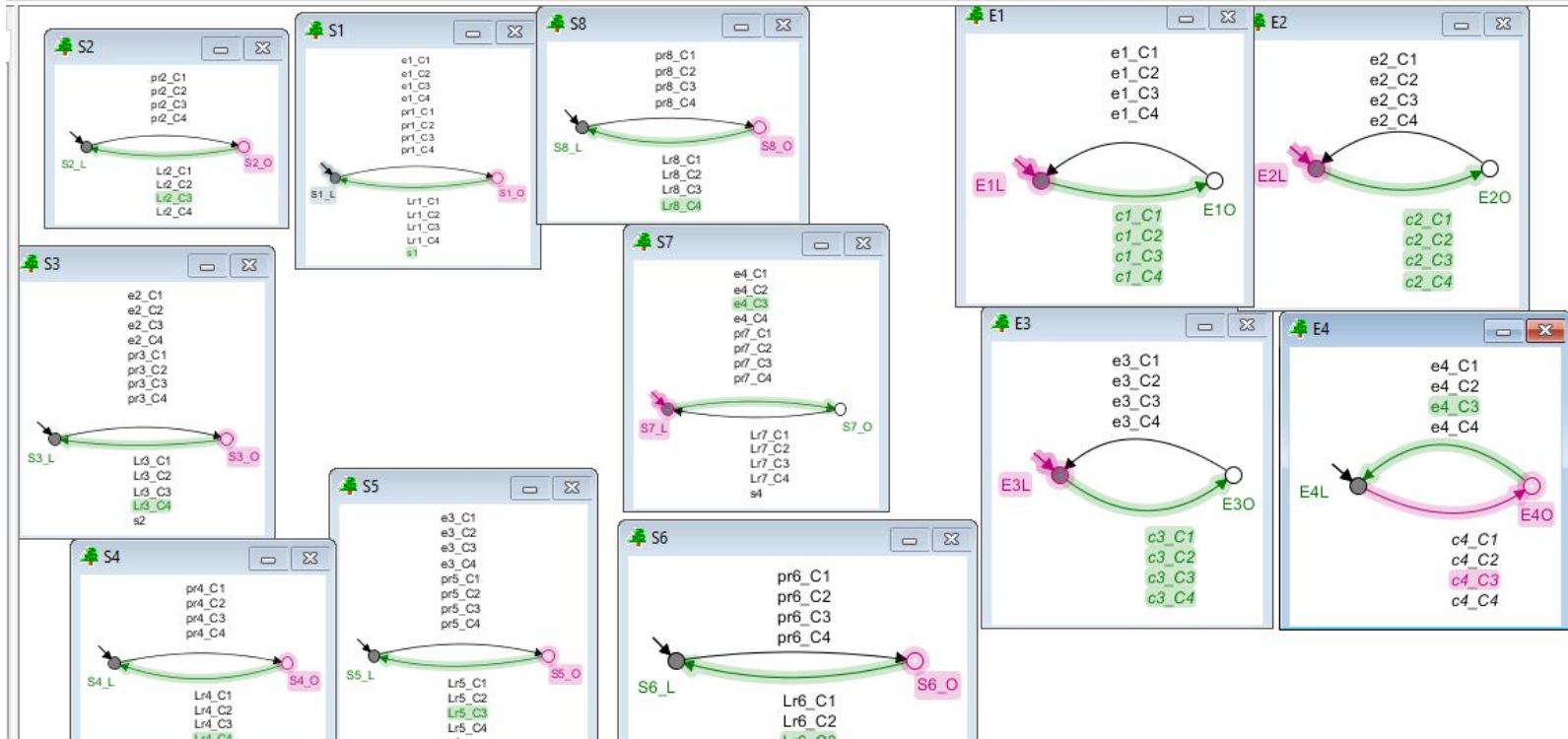


# Controlador

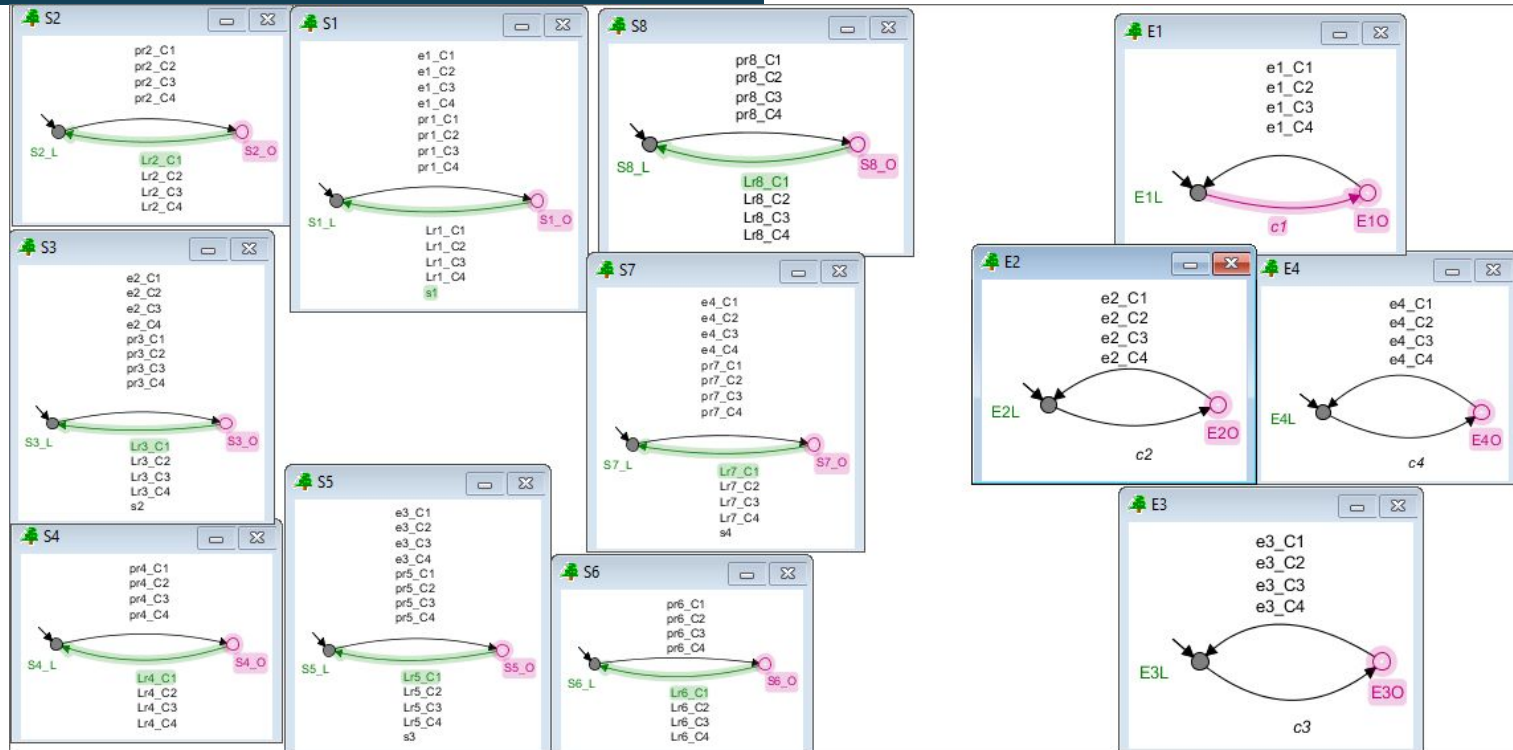
# Simulação com Supervisor



# Simulação com Supervisor



# Simulação com Supervisor



# Conclusão