

Project Report

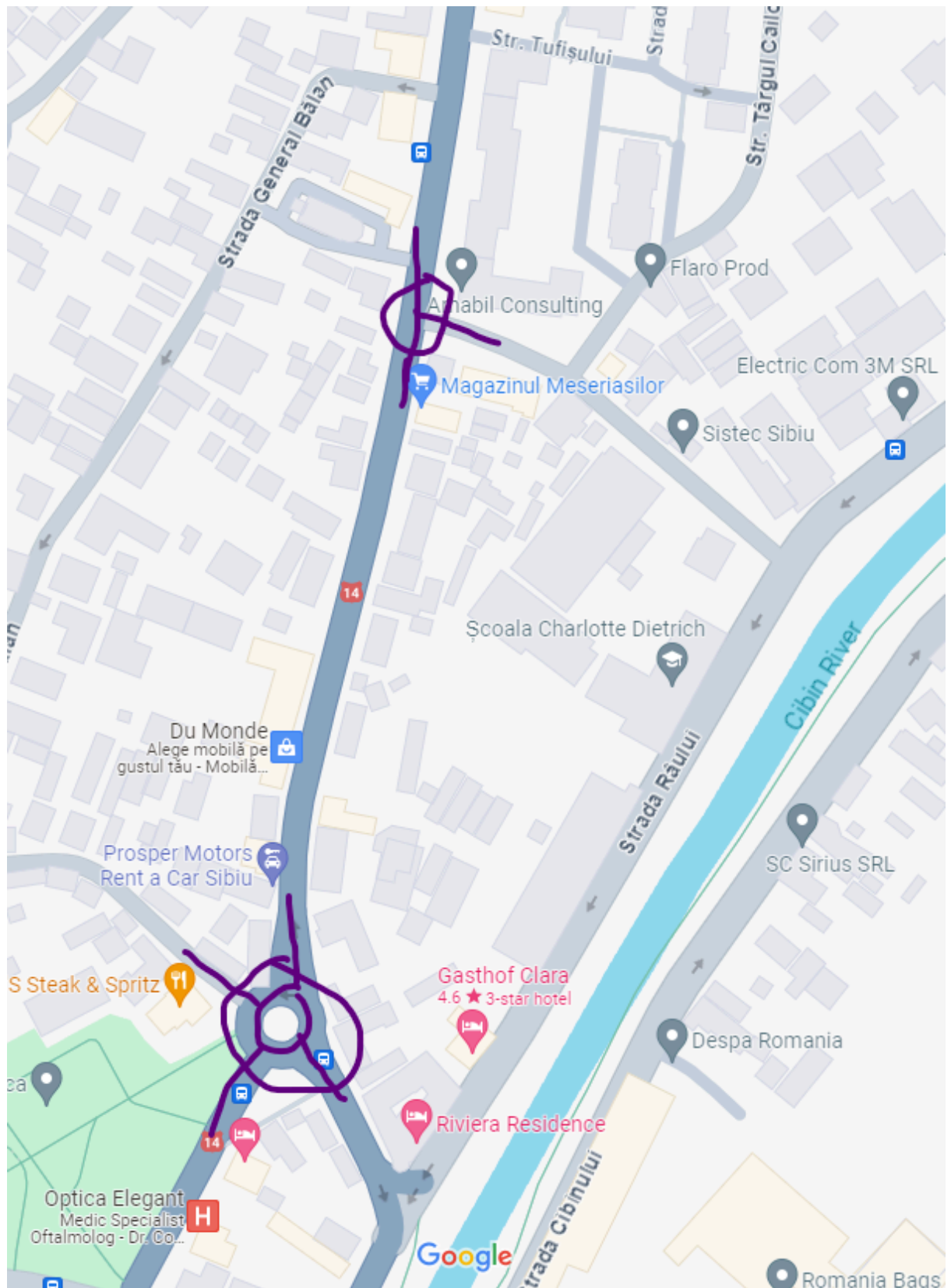
Distributed Control Systems

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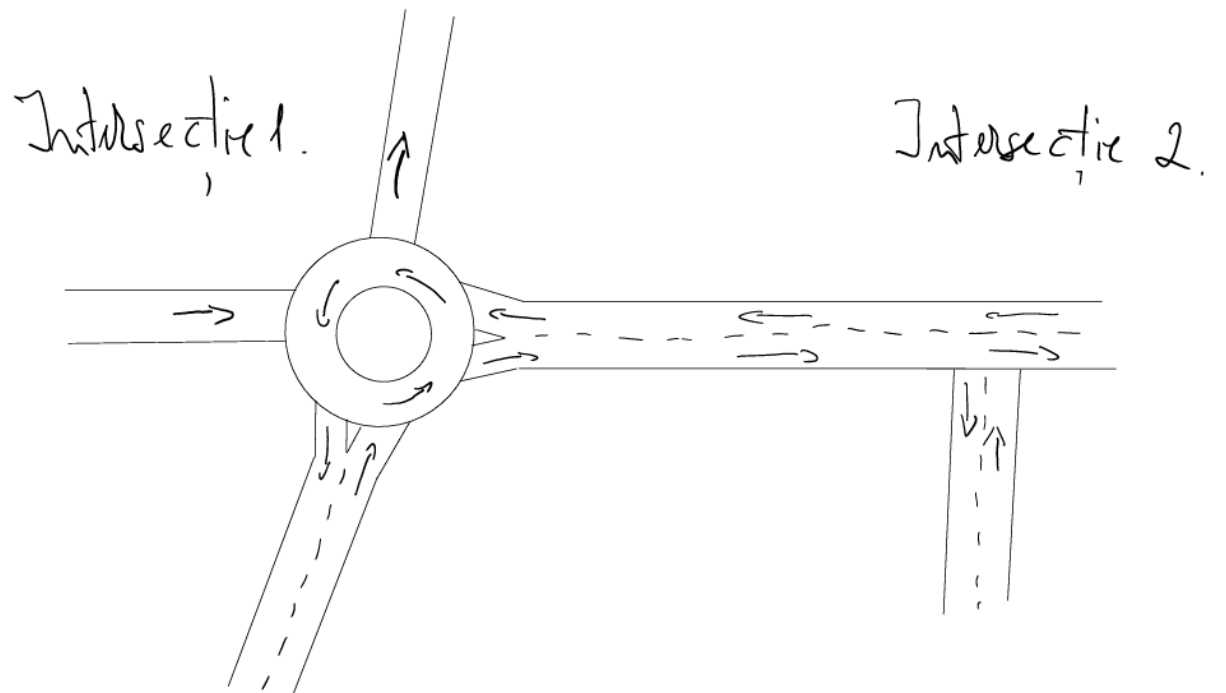
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1. Specifications

a. Assigned Map



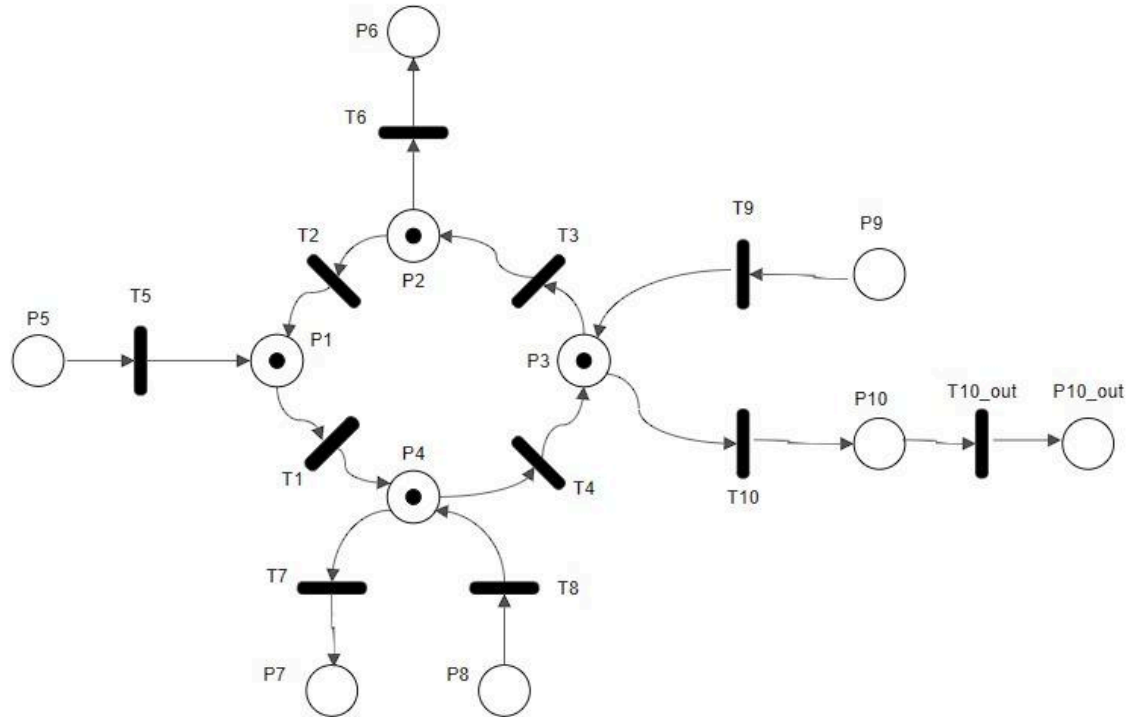
b. Simplified map



2. Design

a. OETPN Model

i. Intersection 1 (roundabout)

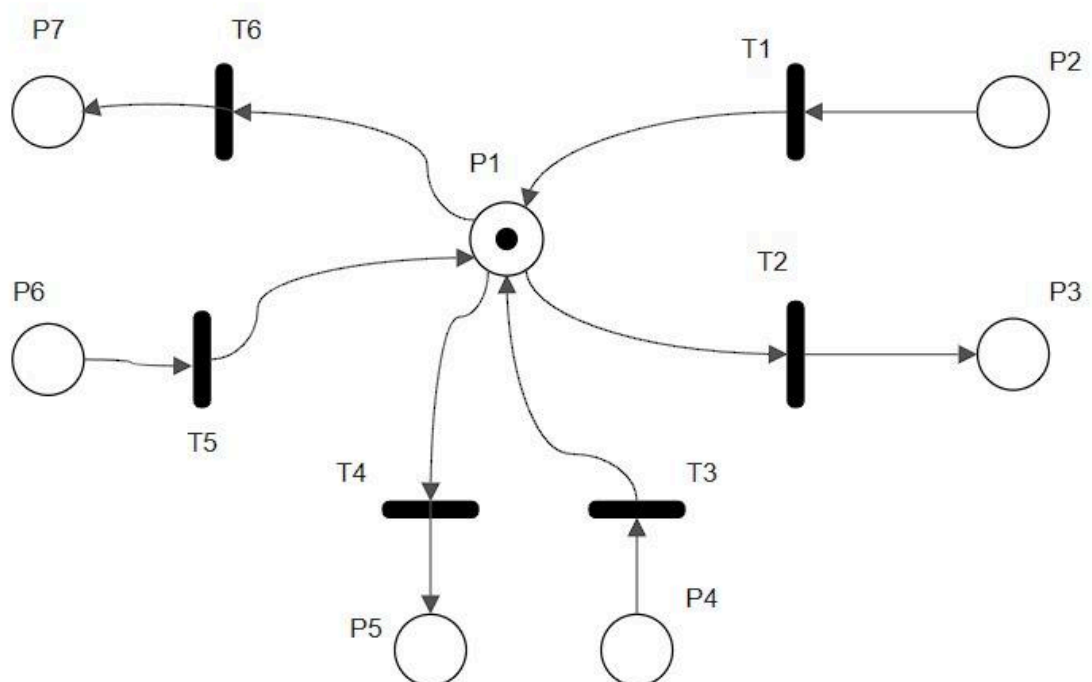


Place Types

P1, P2, P3, P4	DataCarQueue
P5, P6, P7, P8, P9, P10	DataCar
P10_out	DataTransfer

Guards and Maps	
T5 (same for T8, T9)	(P5 != null && P1.CanAddCars)
	P1.AddElement(P5)
T1 (same for T2, T3, T4)	(p1.HaveCarForMe && P4.CanAddCars)
	P1.PopElementWithTargetToQueue(P4)
T6 (same for T7, T10)	(P2.HaveCarForMe && P6.CanAddCars)
	P2.PopElementWithTarget(P6)
T10_out	P10 != null
	P10_out.SendOverNetwork(P10)

ii. Intersection 2



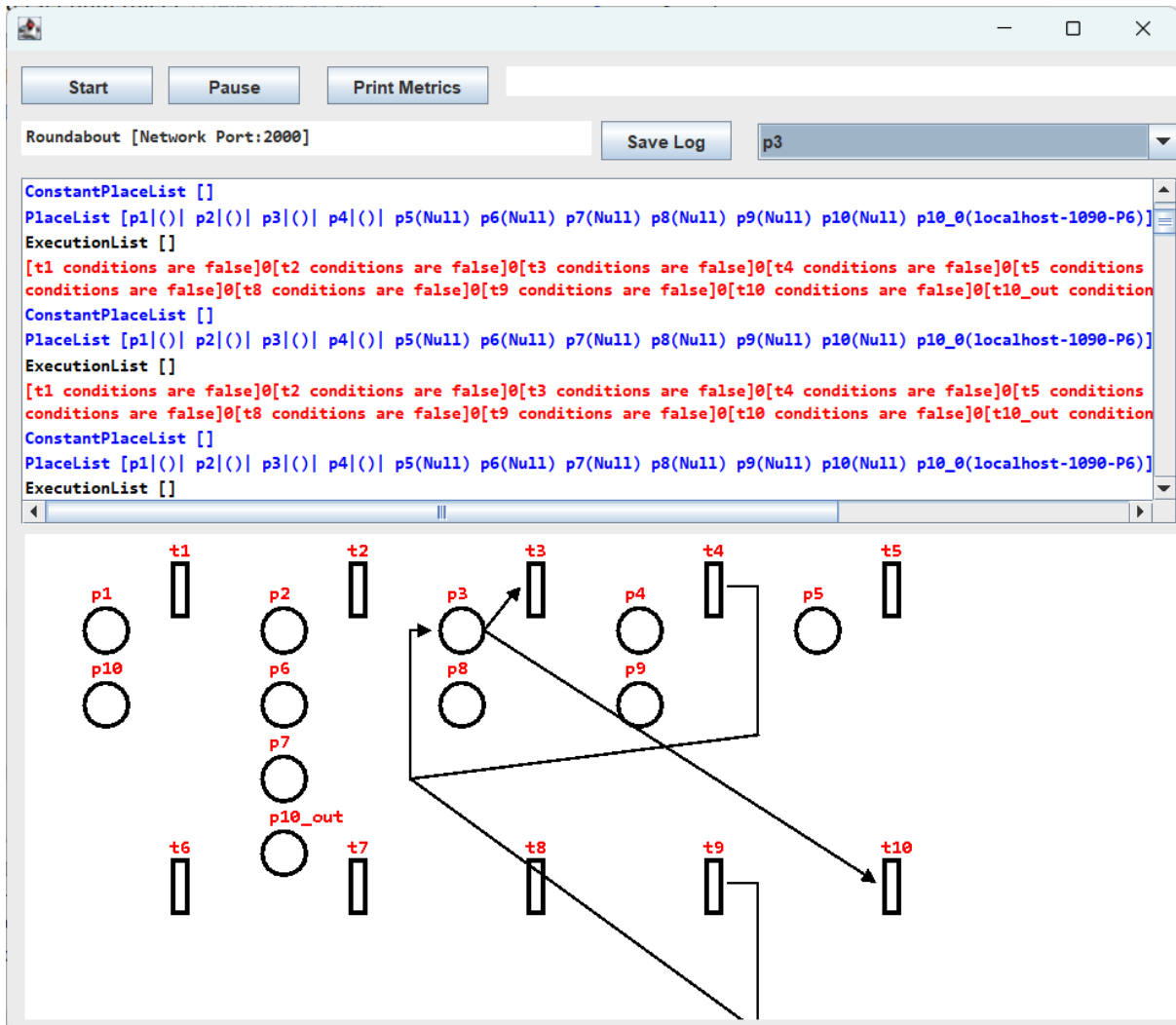
Place Types	
P1	DataCarQueue
P2, P3, P4, P5, P6	DataCar

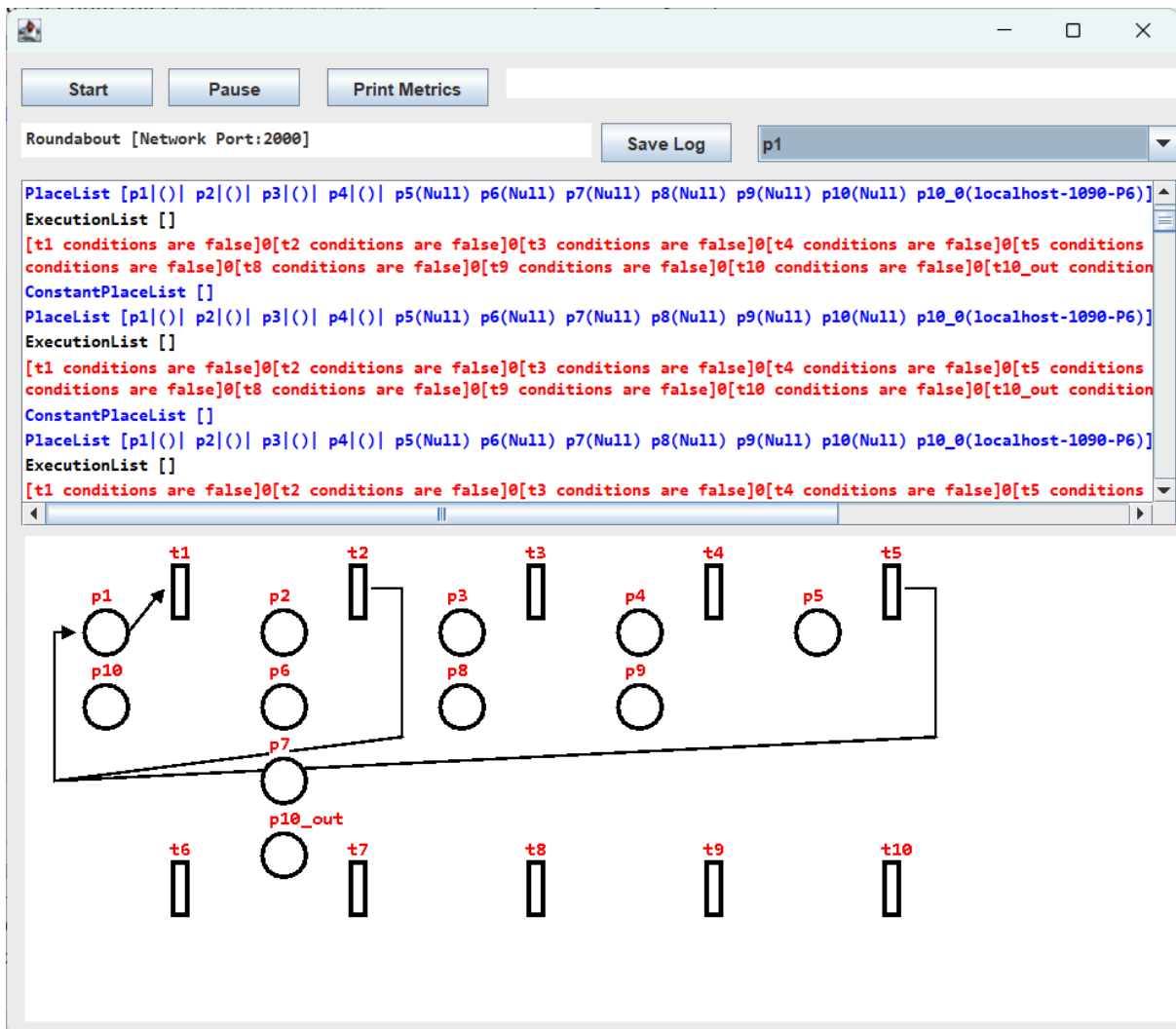
Guards and Maps	
T1 (same for T3, T5)	(P2 != null && P1.CanAddCars)
	P2.PopElementWithTargetToQueue(P1)
T2 (same for T4, T6)	(p1.HaveCarForMe && P3.CanAddCars)
	P3.AddElement(P1)

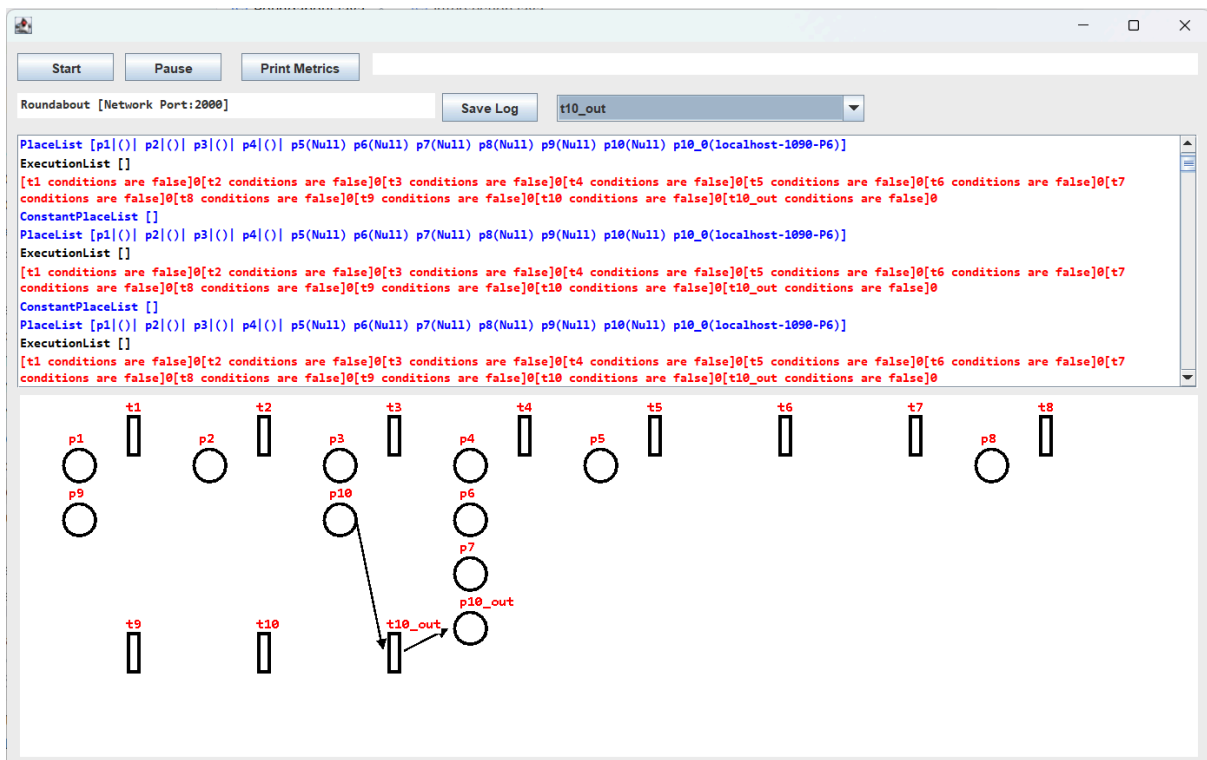
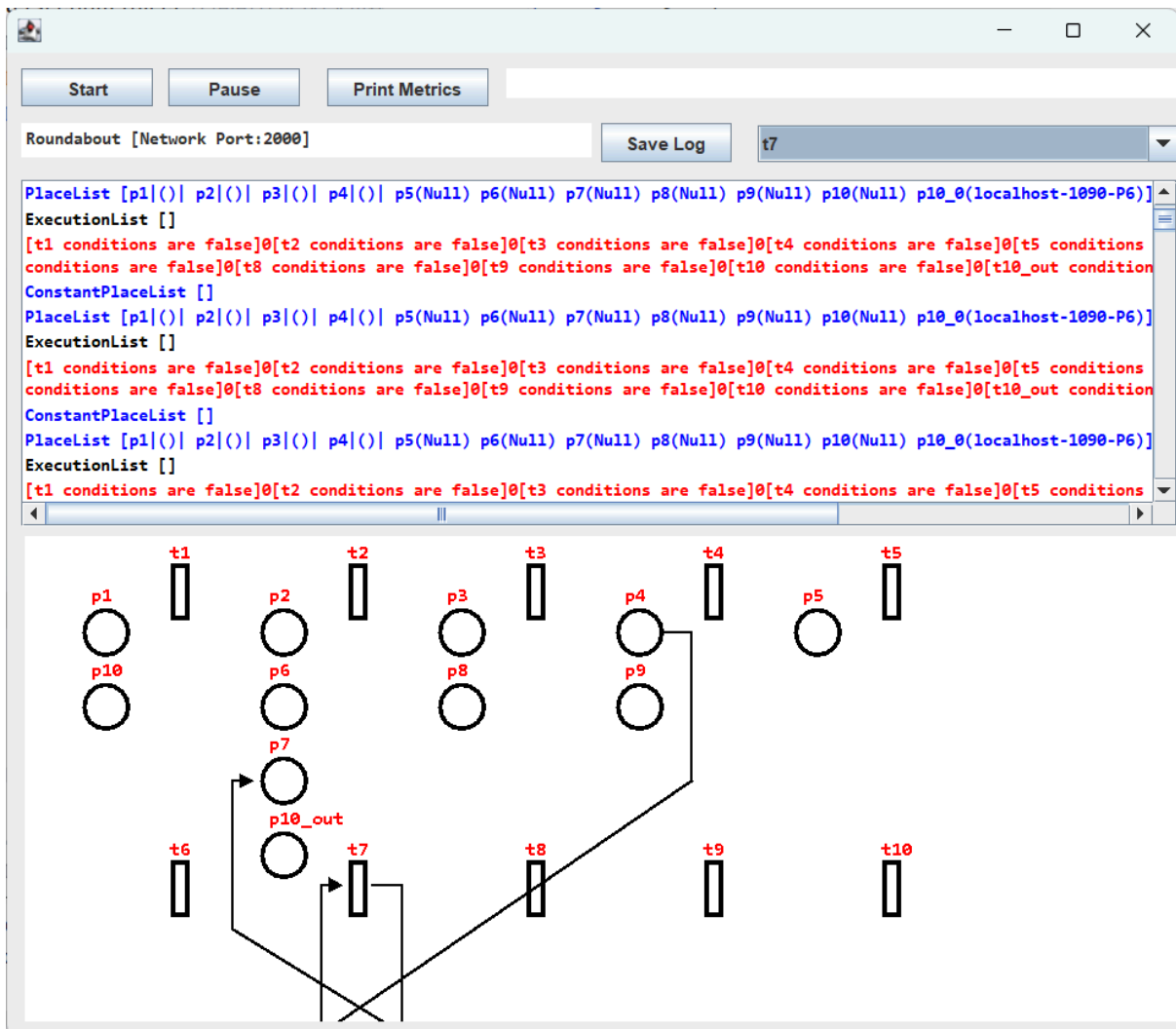
3. Implementation

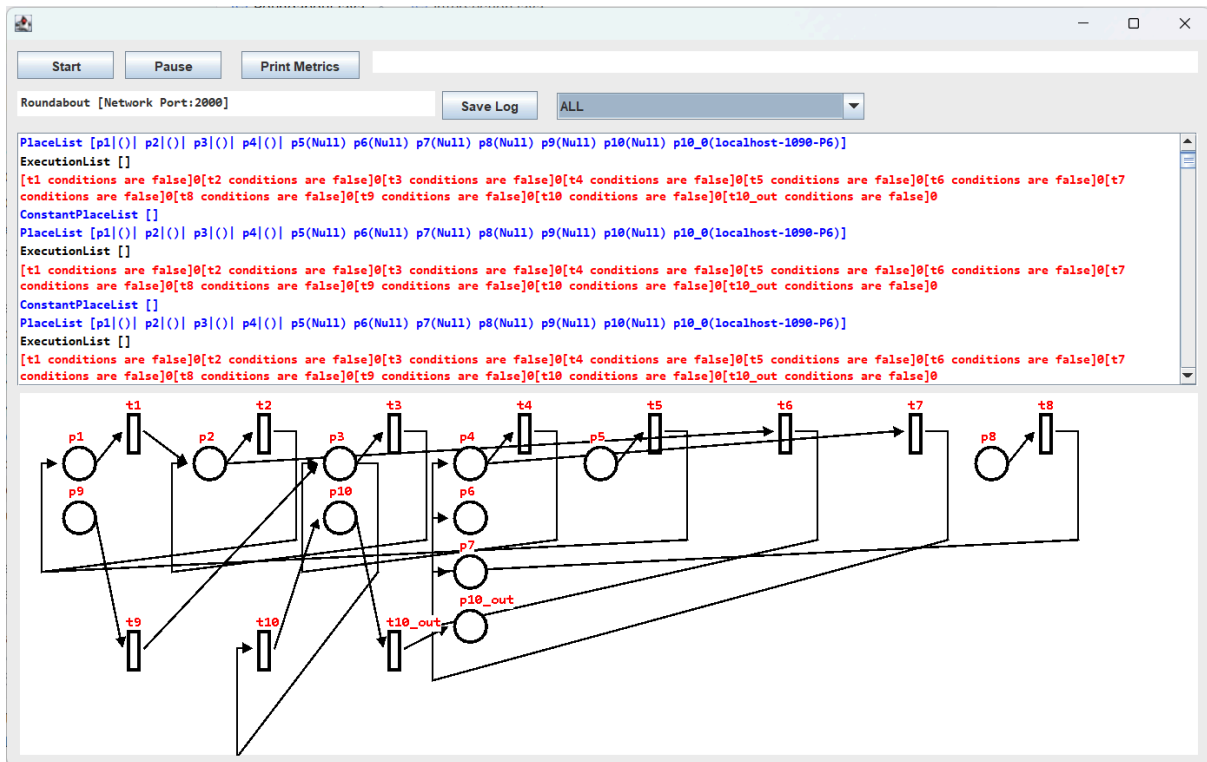
[View code on GitHub](#)

4. Testing









Start

Pause

Print Metrics

Intersection [Network Port:2000]

Save Log

t2

ExecutionList []

[t1 conditions are false]0[t2 conditions are false]0[t3 conditions are false]0[t4 conditions are false]0[t5 conditions are false]

ConstantPlaceList []

PlaceList [p1|()| p2(Null) p3(Null) p4(Null) p5(Null) p6(Null)]

ExecutionList []

[t1 conditions are false]0[t2 conditions are false]0[t3 conditions are false]0[t4 conditions are false]0[t5 conditions are false]

ConstantPlaceList []

PlaceList [p1|()| p2(Null) p3(Null) p4(Null) p5(Null) p6(Null)]

Intersection Started

Waiting For Commands over this port:2000

