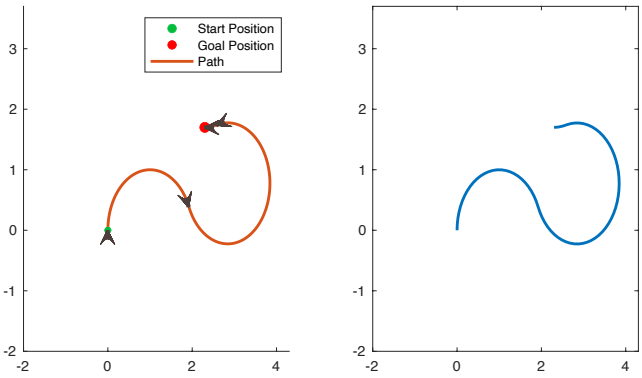
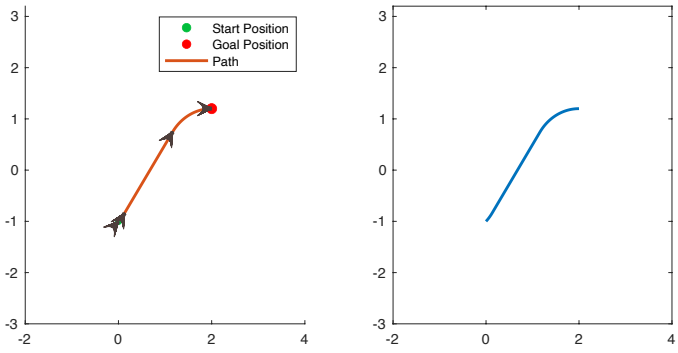
Dubins paths – HandIn 6 – Julián Salt

The results will be presented in this section. All the calculations have been performed with a turn radius of 1. The left plots are the solutions for the Matlab inbuilt implementation, and the plots to the right presents the solution that uses CasADi library.

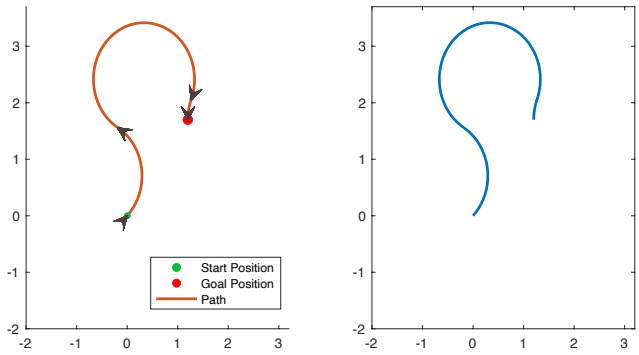
- RLR

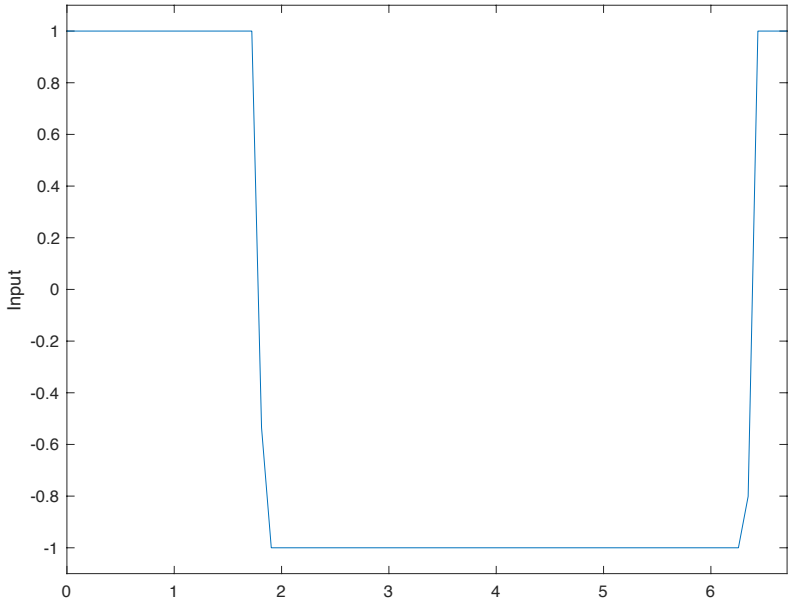


- LSR



- LRL





Input signal of CasADi's implementation, as Dubins formulated, either commands maximum turns (right or left) or a straight motion (approximately).

Trajectory Costs

Type	Matlab	CasADi
RLR	7.6084	7.6113
LSR	3.0920	3.0920
LRL	6.7073	6.7100

Good match between both implementations. CasADi implementation loses precision the longer the trajectory is.

Trajectory Convergence

Careful! Not all initial and final states combinations converge using CasADi.