# 5. Catalysts Coding Contest

Linz / Austria

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# Autonomous Mars Rover

Catalysts

Ein Mars-Rover soll eine Strecke von mehreren hundert Metern autonom zurücklegen.

自动爬行数百米

A Mars Rover shall cover a distance of several hundred meters autonomously.

Der Rover hat einen Vorderradantrieb.

前轮驱动

The rover has front wheel drive.

Input-, Output-Einheiten:

Alle Distanzangaben sind in Meter, alle Winkelangaben in Grad

距离：米，角度：度

Input-, output-units:

All distances are in meters, all angles in degrees.

Vereinfachung: Der Radabstand von der Vorderarchse zur Hinterachse wird für die Berechnung des Wendekreisradius benötigt. Ansonsten ist der Rover punktförmig zu betrachten.

需要从前轴到后轴的车轮距离来计算转弯半径。
否则，流浪者就是点状。

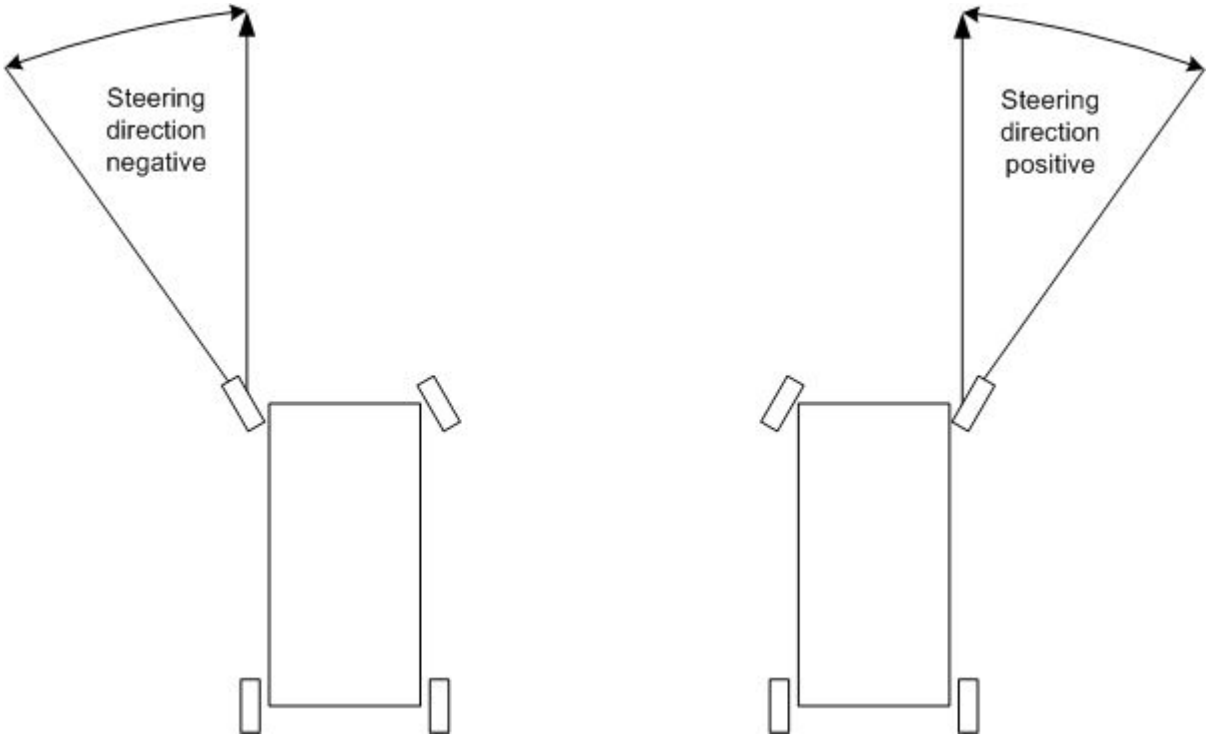
Simplification: The distance between the front and rear wheels (wheel base) is needed for calculating the turn radius. Otherwise the rover can be considered as a point.

# Steering

Catalysts

The rover can be steered up to a maximum steering angle 转向角

- in positive direction (0..MaxSteeringAngle°) or
- in negative direction (0 .. -MaxSteeringAngle°).



# Level 1

Catalysts

Calculate the turn radius („Wendekreisradius“) at a given steering angle.
计算给定转向角的转弯半径。

Input: WheelBase SteeringAngle

(2 floating point numbers)
轮距 转向角度

Output: TurnRadius

(1 floating point number, rounded to two digits)
保留2位

Example:

Input: 1.00 30.00

Output: 2.00

You can compute the turn radius via the following formula:

TurnRadius = WheelBase / sin(SteeringAngle)

Note: TurnRadius = radius, not diameter