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Lab2

1.

	differential drive	Ackerman Drive	Synchronous Drive	XR4000 drive	Mecanum Drive
cost	medium	low	low	high	high
degree of mobility	2	1	1	1	2
degree of mobility of steerability	0	1	1	2	0
degree of maneuverability	2	2	2	3	2
workload capacity	medium	high	high	medium	low
motion control complexity	high	high	high	Low	medium

2.
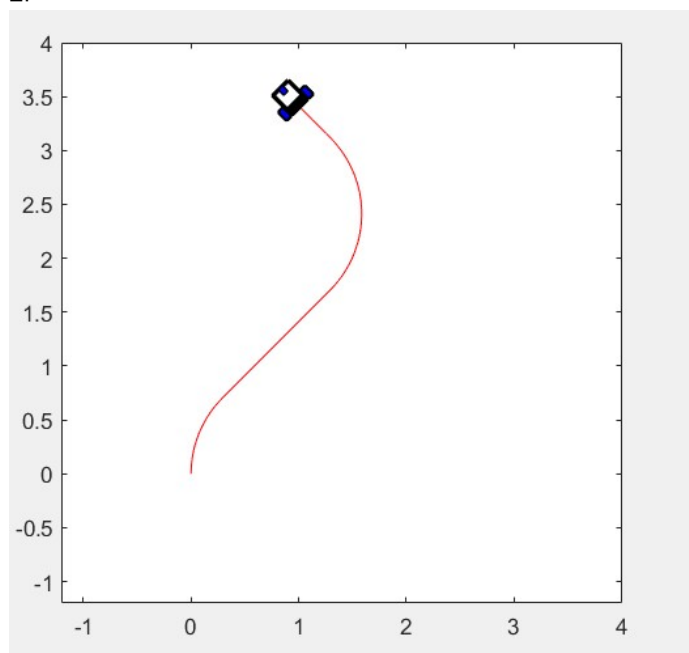
Effects of different selections of goal:

If there is no limitation, there will be infinite suitable trajectory for a certain goal

If there is limitations, we need to separate the goal into several sub-goal.

Effects of different selections of velocities:

Cause `(r+L/2)/v=L/(vr-vl); v=(vr+vl)/2`

`    That is [1 -1; 1 1]*[vr;vl]=[L*v/(r+L/2)`
`2*v]`

when r, L, v is fixed, we can always generate different suitable vr and vl

We conclude that with different velocities, we can keep the trajectory.

3.

$k_\rho, k_\alpha, k_\beta$	
3, 8, -1.5	5, 8, -1.5
3, 12, -1.5	3, 8, -2.5