# MPC-MAP Assignment No. 4 - Report

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## Task 1

A screenshot of a map

AI-generated content may be incorrect.

Figure Path

Trajectory is made more complicated to test most of the possible problems in KF.

## Task 3

A map of a route

AI-generated content may be incorrect.

Figure Tuned KF in known initial pose

Optimal R matrix based on testing is diag([0.0001 0.0001 0.00001]).

## Task 4

First 20 iterations is robot localizing and R matrix looks like diag([0.0001 0.0001 0.1]). Position on X, Y is based on mean of GNSS data. Theta is 0 and KF must converges to real position. After that robot change R matrix to matrix from task 3 and continue in path.

A graph with blue and purple lines

AI-generated content may be incorrect.A screen shot of a graph

AI-generated content may be incorrect.

Figure Path whit unknown initial pose

Figure First 20 iterations of unknown initial pose