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Homework 3

Instructions:

- In the directory, run deadReckoning.py

New positions are based on the following:

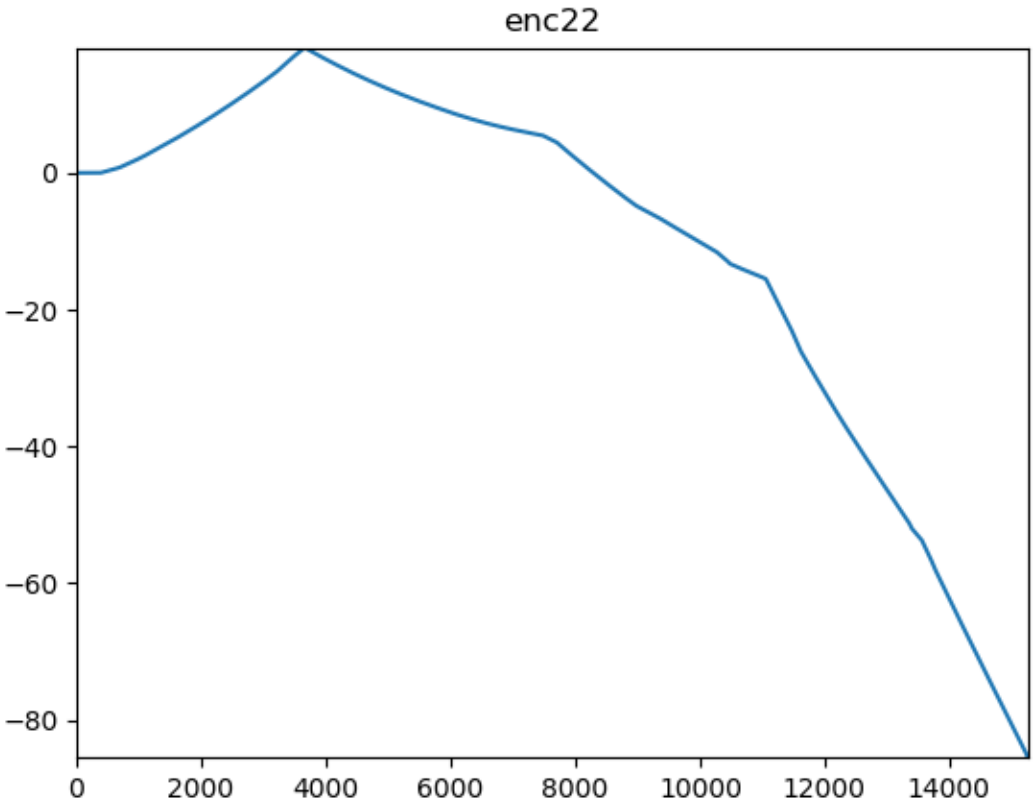
$$\Delta y = D_r * \sin\left(p_0 + \frac{\theta}{2}\right)$$

$$\Delta x = D_r * \cos\left(p_0 + \frac{\theta}{2}\right)$$

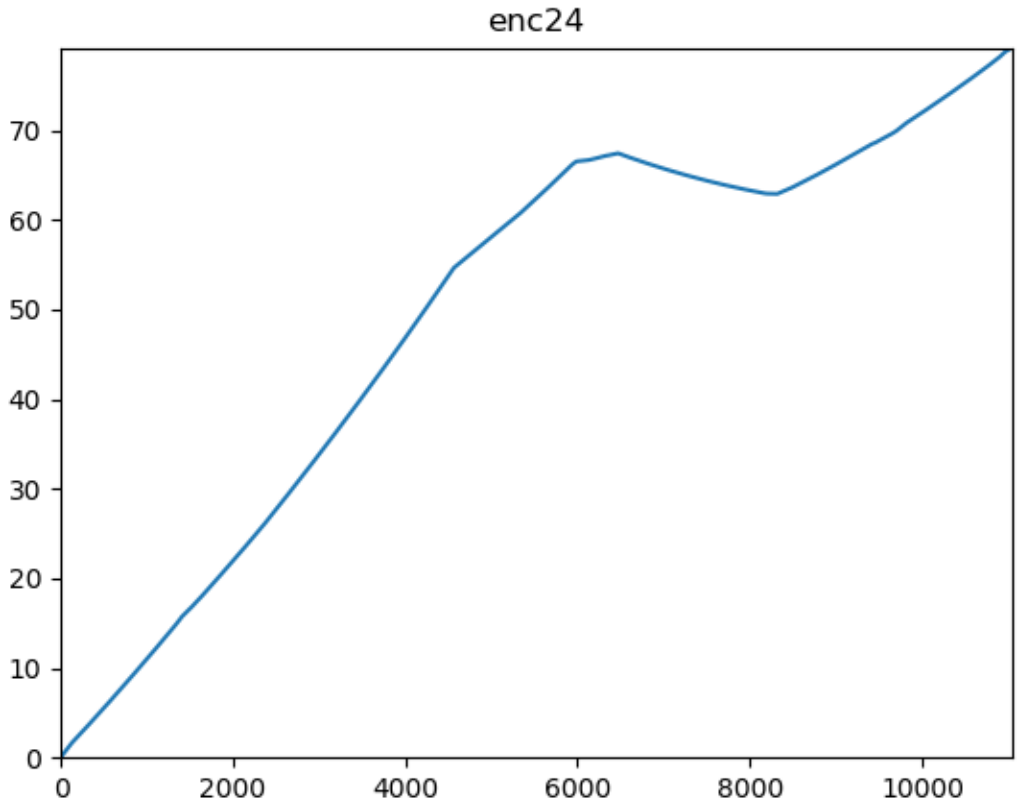
$$\Delta\theta = \theta$$

Problems arise when inferring the direction of the car. With each iteration, no matter the change, the x-direction will always be positive. I have not figured out yet why with my odometry update through Dead-reckoning, why this is the case. Likely, because the integrative nature of the algorithm, the movement through the map leads to constantly increasing error, that is difficult to correct over time.

One assumption that I made was that the robot will move along its origin



Robot Odometry reading for “22”



Robot odometry reading for “24”