KON613E – Probabilistic Methods in Robotics   30 November 2020
Prof. Dr. Hakan Temeltaş

2020-2021 Fall Term
Homework 3   Return Due: 06 December 2020 at 23:55
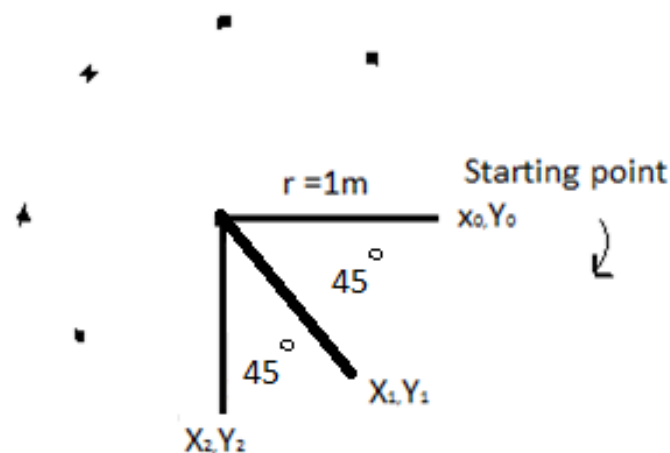
Question:

Design a Graphical User Interface (GUI) "In Matlab" for probabilistic motion models as explained in two sections:

I)   Motion model for a circular trajectory

The motion platform is presented by a "dot"

The path will contains 8 steps with $45°$ for each step.

a) Define uncertainty of the platform by "direct evaluation "algorithms by defining the parameter$(\alpha_1 .... \alpha_6)$.
   Platform model: Dead-reckoning.

b) Define uncertainty of the platform by "sampling" algorithms platform Platform model: Dead-reckoning.

c) Do the same for (a) & (b) using "odometry model".

II) Motion model for a Rectangular trajectory

The motion platform is presented by a "dot"
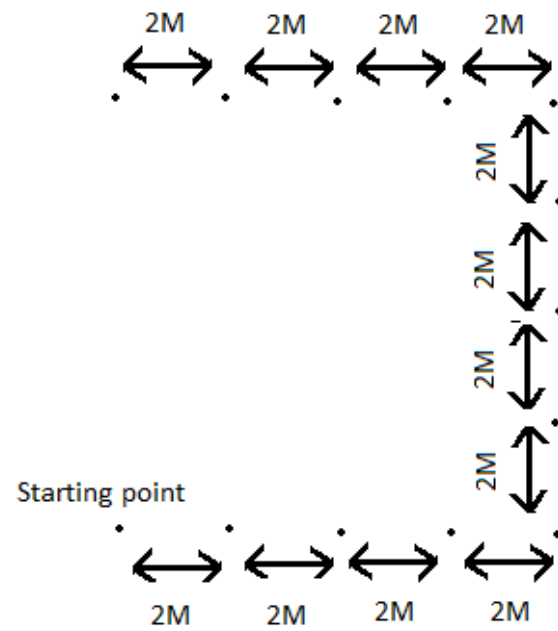
a) Use odometry model and plot the uncertainty using sampling method.