Programming Exercise 2

In this programming exercise you are going to implement the Probabilistic Roadmap (PRM) Planner and experiment with various modifications.

Step 1

Implement the PRM Planner as described in the paper: *Probabilistic Roadmaps for Path Planning in High-Dimensional Configuration Spaces*.

Step 2

Select and implement a modification of the PRM which you think might improve the performance in certain aspects. A modification could something like

- Use a graph rather than a tree (allowing cycles in the roadmap).
- Use a lazy collision checking strategy.
- Sampling bias towards difficult regions.
- ...

You are most welcome to define your own modification (or be inspired from some of the other papers we discuss in class). Just remember to consider the pros and cons it might have. Also remember than when testing a randomized planner you will have to run it more than once to get a reliable measure of the performance.

Dead line

We will have project presentations on the 16th of Marts. All groups are expected to have prepared a small presentation explaining the modifications made, the expected pros/cons and the results.