
Report for Assignment 2

Introduction

To achieve the goal of the assignment I implemented 3 versions:

- **MATLAB 2D:** Using just lists and the non-optimized version of the algorithm. Complexity: $O(n^2)$
- **Python 2D:** In the beginning I used lists of objects and then I switched to dictionaries for better performances. Complexity: $O(n)$ using cell lists.
- **Python 3D:** Same as the previous version but in a 3D environment. Complexity: $O(n)$

Initial Conditions

The rabbits and the wolves are distributed randomly within the environment as shown below.

Point A

In both MATLAB and Python implementations after very few hundred iterations and with the given parameters