

Pacman

1115201700113 Παναγιωτόπουλος Γεώργιος

Search:

- As the basis for the search functions, I used the pseudocode given in the project's slides.
- I defined the Node class and the path_to_node() function globally, in the start of the search.py.
- Initially I had use the set() data structure, as instructed, for the expanded nodes but eventually run into some errors whilst implementing the search agents.

Search Agents General:

- Added the element "goal" to all the problem classes so that I would be able to call the ready-made heuristics.
- I used the Manhattan heuristic cause we know that it is consistent, so there is no point using the Euclidian over it.

Corners Problem:

- I implemented the states as a tuple of the current coordinates and a list of all the visited corners (coordinates, corners_list).
- The goal state now becomes the first state in which the number of the visited corners list is equal to 4 (meaning we have visited all corners).
- The way I keep track of the visited corners is by adding them when we are about to jump into one, in the successor function.
- The heuristic returns the distance to the most distant unvisited corner, a rough lower barrier to the amount of distance pacman will need to traverse in order to win.

Food Heuristic follows the same principle.