Search In Pacman

3.1

Is the exploration order what you would have expected? Does Pacman actu- ally go to all the explored squares on his way to the goal?

2) Yes it is the exploration order I expected for the most part. No pacman does not.

Is this a least cost solution? If not, think about what depth-first search is doing wrong.

3) Depth first search does not, It does not always explore routes that could be cheaper

3.2

Does BFS find a least cost solution? If so, explain why?

Yes, Breadth first search explores the closest layer or node first. It is just slow and not optimal.

3.3

Specify the data structure used from the util.py for the uniform cost search

It is a priority queue that has elements added with a cost, and the cost determine which gets popped out first

3.4

What happens on openMaze for the various search strategies? Describe your answer in terms of the solution you get for A* and Uniform cost search.

Both Pacmans Take the same Path. I would say A* search expanded fewer Nodes than Uniform Cost Search most of the time, A* did it in less work I would say.

3.5

I created an object with the position and a collection of unvisited corners. The goal is completed once the collection is empty because you visited all corners. The collection is updated according to every move.

3.6

Describe the heuristic you had used for the implementation.

I calculated (manhattan)distance to all corners and returned the largest distance

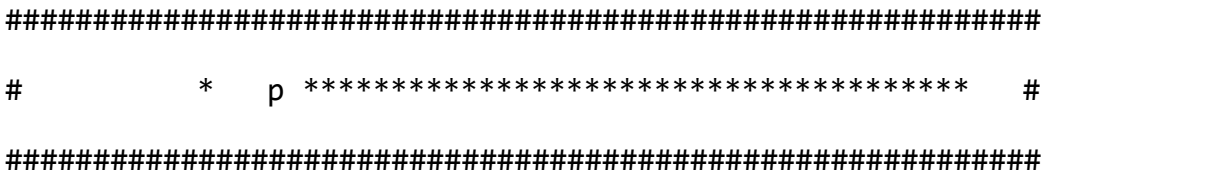
3.7

Describe the heuristic you had used for the FoodSearchProblem.

Calculated (Maze)distance to all food and returned the farthest distance

3.8

Explain why the ClosestDotSearchAgent won’t always find the shortest possible path through the maze.



The right food was closer so P will go for it and it will continue to the right, but if it would have gone left first, it would have been better, otherwise the left food would be left till last

Self Analysis

What was the hardest part of the assignment for you?

Going through the files and finding all the tools you need to do the assignment. The last four questions took a decent amount of time to figure out.

What was the easiest part of the assignment for you?

After doing the first question, the next 4 were a copy and paste with minor changes. The first 4 questions were not hard because there are many pseudocode examples out there.

What problem(s) helped further your understanding of the course material?

The first 4 helped me understand the other 2 algorithms further.
The last 4 helped me understand the effects of heuristics.

Did you feel any problems were tedious and not helpful to your understanding of the material?

The last four problems were harder, but I would not say they were tedious. The entire project is fine.

What other feedback do you have about this homework?

A document or hint to were a few of the tools are that you will need to complete the assignment.