Project 1 Awards

TA: Peter Massey-Plantinga

Problem 7 — Food problem

Simple heuristic: number of dots left

- 9551 nodes
- Speed: fast (1 sec)



Problem 7 — Food problem

Simple heuristic: number of dots left

- 9551 nodes
- Speed: fast (1 sec)

5 people tied, with 4137 nodes examined

- Heuristic: maze distance to farthest dot
- Speed: slow (10-20 sec)



Problem 7 — Food problem

Simple heuristic: number of dots left

- 9551 nodes
- Speed: fast (1 sec)

5 people tied, with 4137 nodes examined

- Heuristic: maze distance to farthest dot
- Speed: slow (10-20 sec)



Winner: Serena Davis, with 431 nodes examined

- Heuristic: farthest pair + distance to closest dot of the pair
- Speed: reasonable (3 sec) with storing all pairs of distances

Problem 6 — Corners

2nd place: Serena Davis

• 846 nodes

Heuristic: Closest corner, then follow walls



Problem 6 — Corners

2nd place: Serena Davis

846 nodes

Heuristic: Closest corner, then follow walls

1st place: Haoyuan Xing

741 nodes

Heuristic: Shortest manhattan distance for all permutations of corners



Problem 6 — Corners

2nd place: Serena Davis

846 nodes

Heuristic: Closest corner, then follow walls

1st place: Haoyuan Xing

741 nodes

Heuristic: Shortest manhattan distance for all permutations of corners

0th place: Diwen Hu, Abishek Kumar

- 692 nodes, but technically not admissible
- Heuristic: Find closest corner (manhattan) and go to it
- Fix: don't go to middle of 3, brings total to 741



Problem 6 — Davis Heuristic

- Apply the heuristic from problem 7
- 365 nodes examined

Why does this work?

- Good estimate of distance
- Can store computation

