

Problem Formulation:

- 1) **Initial state:** Pac-man is in the lower left cell and all food (pellets) are in the maze.
- 2) **States:** (x, y) location, dot Booleans.
- 3) **Actions:** north, south, east, west.
- 4) **Successor function:** update location and possibly a dot boolean.
- 5) **Goal test:** Pac-man eats all pellets (dots all false).
- 6) **Path cost:** total moves, each move costs 1.