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**Problem statement Given the below maze configuration, the task of the robot is to navigate in the maze and find the optimal path to reach the finish position. It can move to the north, south, west and east direction. While navigating through the environment it has obstacles like walls. For each transition, a path cost of +3 is added in search. Assume that the robot’s vision sensors are sensitive to the exposure to the sunlight and whenever it tries to move towards the east direction resulting in incurring an additional penalty of +5 cost. Use Manhattan distance as a heuristic wherever necessary.**

1. **Explain the PEAS (Performance measure, Environment, Actuator, Sensor.) for your agent**

Answer :

**Performance Measure :**

1. Reach the goal (finish position) from the start position.
2. Avoid hitting walls or invalid positions
3. Minimize total path cost

a. Add +3 for any transition

b. Additional penalty +5 for eastward movement due to sunlight exposure

**Environment :**

Maze , along with obstacles[like walls]

SunLight

**Properties of Environment**

1. Deterministic
2. Fully observable
3. Single Agent
4. Static
5. Discrete
6. Sequential

**Actuator :**

Movement actuators (of robot)

* to move north , south , west , east

**Sensor :**

1. Vision sensors
2. Heat sensor to sense sunlight and avoid it
3. Position sensors to track its position on the maze/grid