♦ PEAS: Pacman

Performance measure

-1 per step; +10 food; +500 win; -500 die;

Environment

Maze, food, ghosts, ……..

Actuators

Pacman's body and mouth

Sensors

Some sort of vision (Entire state is visible)

♦ PACMAN game agent:

O: Fully Observable

D: Strategic

E: Episodic

S: dynamic

A: Semi-Dynamic

♦ The problem formulation of the Pac-Man game

can be framed as a single-agent search problem in an environment represented as a maze.

The agent, Pac-Man, moves around the maze and makes decisions on where to go next based on the current state of the environment.

The state of the environment includes the positions of Pac-Man, the ghosts, the pellets, and any obstacles in the maze.

The agent's goal is to maximize its score by eating as many pellets as possible while avoiding being caught by the ghosts. The agent can take actions such as moving up, down, left, or right to navigate the maze. The agent's actions are limited by the environment, including walls and obstacles that block movement.

To solve the problem, an intelligent agent needs to be designed that can effectively navigate the maze, avoid ghosts, and collect pellets. This can be achieved by implementing an algorithm that incorporates various strategies such as pathfinding, heuristic search, and decision-making based on the state of the environment.

The performance of the agent can be evaluated by measuring its score, the number of pellets eaten, and the number of times it is caught by the ghosts. The ultimate objective is to maximize the score and complete the game successfully.

Binary Search tree