

## **Pacman**

### **PEAS**

**P:** speed , percentage of eaten dots, survival times

**E:** dots , barriers, ghosts

**A:** Display screen

**S:** Keyboard, touch screen

### **ODESA**

**O:** fully

**D:** Strategic

**E:** episode

**S:** semi dynamic

**A:** single agent

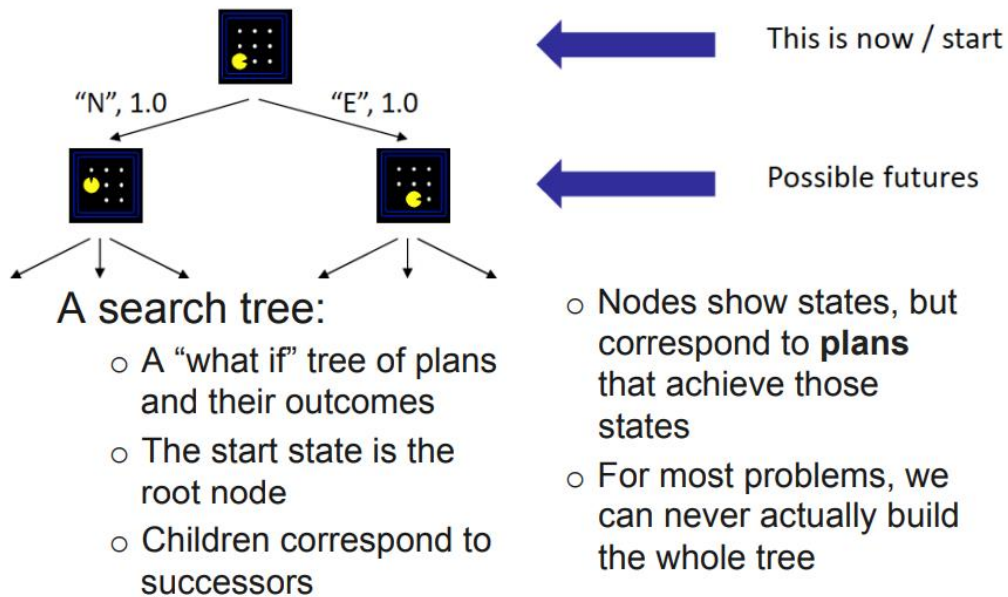
## Problem formula of pacman Game

- **Initial state** : pac\_man at the starting point .
- **Goal state**: pac\_man eats all of the dots without catching by ghosts .
- **Successful Function**: Pac-Man moves through the maze by moving in four directions - up, down, left, and right.
- **Solution Strategy**:
  1. **Maze Design**: A maze is designed with walls and dots. The walls define the boundaries of the game and the dots are the items Pac-Man must eat to win.
  2. **Characters**: The game includes two types of characters - Pac-Man and ghosts. Pac-Man is controlled by the player and must navigate through the maze to eat all of the dots. The ghosts are computer-controlled and will try to catch Pac-Man.
  3. **Game Mechanics**: Pac-Man moves through the maze by moving in four directions - up, down, left, and right. The player can control Pac-Man using arrow keys or a joystick. As Pac-Man moves through the maze, he will eat dots and gain points. Eating large dots will cause the ghosts to turn blue and become vulnerable, allowing Pac-Man to eat them for bonus points.
  4. **Win/Lose Conditions**: The game is won when all of the dots are eaten. The game is lost when Pac-Man is caught by a ghost.
  5. **Scoring**: The player gains points for eating dots and bonus points for eating vulnerable ghosts. The player can also earn extra lives by reaching certain point thresholds.
  6. **Level Design**: As the player progresses through the game, the maze becomes more complex and the ghosts become more difficult to avoid.
  7. the Pac-Man game requires strategic movement and quick reflexes to avoid the ghosts and clear the maze of all dots.

- **Path cost** : one per move .

## Search tree

# Search Trees



## Team :

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## Sec 5