

Problem solving is a agent based system that finds sequence of actions that lead to desirable states from the initial state. - Four steps of problem solving are: i. Goal Formulation: Helps to organize behavior by isolating and representing the task knowledge necessary to solve problem. ii. Problem Formulation: Define the problem precisely with initial states, final state and acceptable solutions. iii. Searching: Find the most appropriate techniques o sequence among all possible techniques. iv. Execution: Once the search algorithm returns a solution to the problem, the solution is then executed by the agent. Techniques State Space Representation - A state space essentially consists of a set of nodes representing each state of the problem, arcs between nodes representing the legal moves from one state to another, an initial state and a goal state. - A problem can be defined by . Initial state . Actions (Using successor function) . Goal test (to determine the goal state) . Path cost - A problem is when defined with these components is called well defined problem. - The actions and rules should be defined in as general way as possible. If the specific rules are made, the rule set becomes very large. Eg; Chess world.