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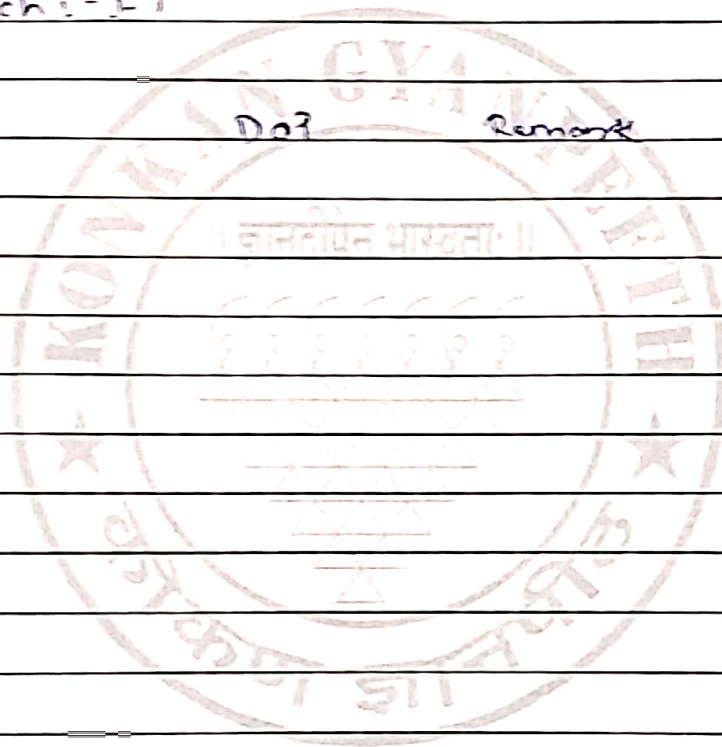
Branch :- 2-1

DoA

Do?

Remark

High



* Aim:- To understand state space based problem foundation & AI problems so that problem solving Agent can be applied

* Theory:- First we introduced the problem solving agent. Agent first formulates goal and problem, then determines or rather searches an action sequence.

function SIMPLE-PROBLEM-SOLVING-AGENT returns

static seq an action sequence, initially empty
state, some description of current world state

goal, a goal initially null

problem, a problem foundation

state \leftarrow UPDATE-STATE (state, percept),

if seq is empty then do

goal \leftarrow FORMULATE-GOAL (state)

problem \leftarrow FORMULATE-PROBLEM (state, goal)

seq \leftarrow SEARCH (problem)

action \leftarrow FIRST (seq)

seq \leftarrow REST (seq)

return action

* Problem solving Agent Architecture *

Defining the Problem is referred to as problem formulation

It involves defining following five things

- Initial state It is the starting state that the problem is in

- Action It defines all possible actions available to the agent given it is in some state currently. It is a function that return itself all possible actions.

- Transition model also known as successor function which define which state/s the system tend to move to when a particular action is executed by the agent. successive application of transition model gives rise to what is known as state space.
- Goal test This act is as a stopping condition when the state passed to this function is goal state.
- Path cost It is accumulated cost of performing certain sequence of action. This can help in determining whether the action sequence under consideration is optimal.

* Working:-

1. Navigate to KNEC Workshop from HOD IT cabin with minimum number of moves, moves can be climbing or staircase.
2. 8 puzzle problem
3. The missionaries and cannibals problem
4. N-Queen's problem
5. Two room vacuum cleaner world
6. water Jug Problem