

Things to define (or at least think about) for a search problem

- What are the properties of a **state**? This is everything that defines the "current conditions" of the world. *Things that always remain constant in the world, with respect to a state, are not part of the state, but rather part of the **environment**.*
 - How many total states are there? This is the size of the *search space*.
 - What is the initial state?
 - How does an agent know which actions are possible in which states?
 - Define a function $ACTIONS(s)$, which returns all possible actions that may be taken from a state s .
 - How does an agent know what state they move to when they take an action in a state?
 - Define a function $RESULT(s, a)$ which returns the new state s' that the agent moves into when taking action a from state s .
 - How does an agent know when to stop (when they've reached a goal)?
 - Define a function $IS-GOAL(s)$ which returns true or false depending on if state s is a goal or not. This is most useful when there are multiple goal states, and can often be skipped if there's only one goal state.
 - How does an agent know the cost of moving from one state to another?
 - Define a function $ACTION-COST(s, a, s')$ or $c(s, a, s')$ which returns the cost of taking action a in state s and moving to state s' .
-