Exp. 7

Postlab

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Advantage	Disadvantage
- Allows systematic exploration of possible states and transitions	- complexity increases exponentially with problem size
- Can find optimal solutions for problem with well-defined state and transition rules	- May get stuck in local optimal or search spaces with infinite loops.
- Useful for modeling and solving a wide range of problems in AI, including search and planning	- Requires careful design and implentation to ensure efficiency and correctness
→ Simple and easy to implement	prone to getting stuck in local optism, especially in rugged search spaces
- Iterative improvement leads to quick convergence	- cannot guarantee finding the global optinum
- Continous search space	- sensitive to initial starting points

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3 → simple hill climbing : Iteratively makes small improvements to the current solution.

steepest Ascent hill : considering all neighbours states and selects the one with the highest improvement.

Random Restart hill climbing : Randomly restart the search from different initial states to escape local optimal.

simulated Annealing : Introduces randomness to escape local optimal by allowing uphill moves with a decreasing probability.