Q.1 What are the advantages and disadvantages of state space search?

→ Advantages:
① completeness: Guaranteed to solution if one exists.
② optimality: can find the best solution.
③ flexibility: Adoptable to various problem domains.
④ Applicability: suitable for a wide range of problems.

Disadvantages:
① Exponential complexity: Computationally expensive for large problems.
② Memory Requirements: High memory usage, especially for large search spaces.

Q.2 What are the advantages and disadvantages of the hill climbing approach?

→ Advantages
① Simplicity: Hill climbing is easy to understand and implement making it suitable for simple optimization problems.
② efficiency: It can converge quickly to a local optimum, especially in problems with smooth and continuous search 3 pages.

Disadvantages:
Local optima: Hill climbing is prone to getting stuck in local optima, failing to find the global optimum in non convex search spaces.