

Algorithm	Time Complexity	Space Complexity	Complete?	Optimal?
BFS	$O(V + E)$	$O( V )$	Yes, guaranteed to find solution	Yes, assuming all actions have a uniform cost
UCS	$O((V+E)\log V)$	$O(V)$	Yes, guaranteed to find a solution	Yes, guaranteed to find correct solution
DFS	$O(b^n)$ , where $n$ is the depth of the search tree.	$(O(bn))$ Linear	Complete on a finite graph, if space is infinite or we can't search for repeated states then no.	No guarantee the first solution is the best
DLS	$O(b^L)$ , where $L$ is the pre-set limit of the search tree.	$(O(L))$	No, the limit allows for efficiency but not all nodes are explored	No, the first solution found will be return regardless of if it's the best or not
IDS	$O(b^d)$	$O(bd)$	Yes, will not stop until solution is found	Yes, guaranteed to find correct solution
A*	At worst: $O(b^d)$	$O(b^d)$	Depends on conditions, can be complete and optimal	Depends on conditions, can be complete and optimal