**Depth-first Search:**

* **Idea:** DFS is a graph traversal algorithm that starts from the root of the graph and expands continuously until a goal is reached. Early stopping is applied, meaning if a successor of a node is a goal, the search concludes.
* **Algorithm:** The algorithm implements two arrays: A dict-type array storing states that have been reached, and a frontier queue to retrieve states. The queue is ordered by priority, with each state’s priority being the negative value of that state’s depth. In essence, the algorithm uses the best-first search strategy using priority function f(n) = - depth, while utilizing the early stopping method.
* **Pseudo-code**:

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