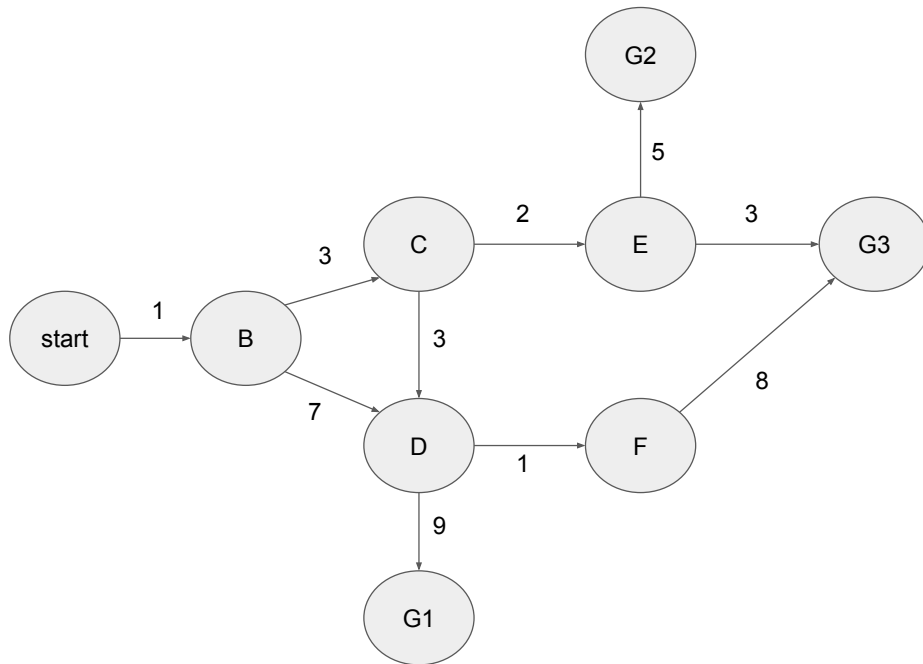


1 Uninformed Search

Consider the state space graph shown below. A is the start state and G is the goal state. The costs for each edge are shown on the graph. Edges are directed and can only be traversed in the direction indicated by the arrow. When doing Breadth and depthfirst search you can just use the depth of the node as the cost.



Execute the following search algorithms using priority queues, by filling in the search table for each part. Break ties alphabetically. Note that all steps in the table below will necessarily be used. You may skip any steps where a node is removed from the fringe but not expanded. Note that nodes are only expanded after they are removed from the fringe, after checking the goal test, and after checking if not in the closed set.

1. Breadth First Graph Search.

Step	Priority Queue	Expand
1		
2		
3		
4		
5		
6		
7		
8		

Solution:

2. **Depth First Graph Search.**

Step	Priority Queue	Expand
1		
2		
3		
4		
5		
6		
7		
8		

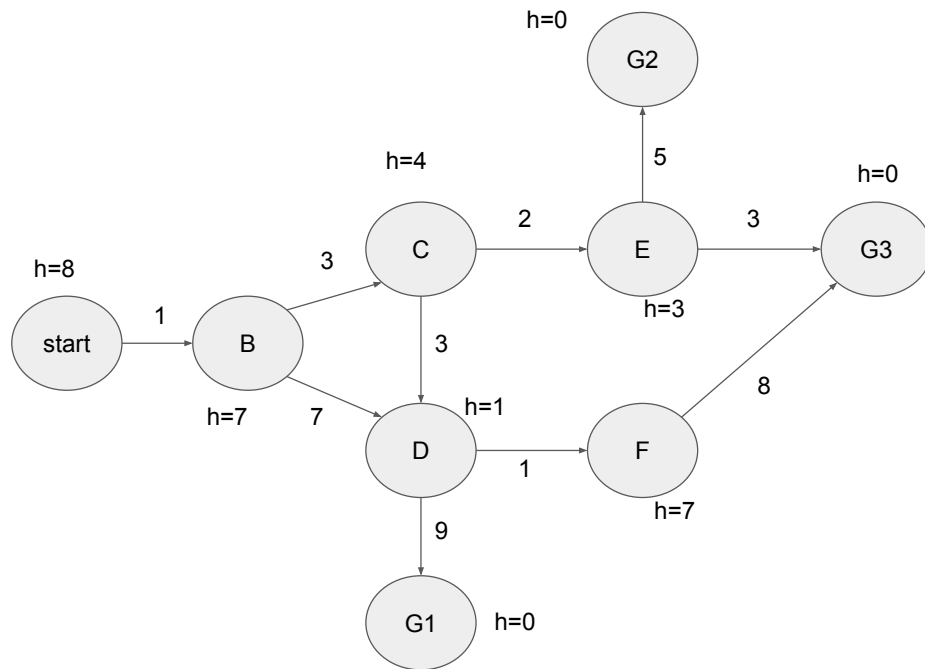
Solution:

3. **Uniform Cost Graph Search.**

Step	Priority Queue	Expand
1		
2		
3		
4		
5		
6		
7		
8		

Solution:

Consider the following heuristic function h :



1. Is the heuristic admissible? Yes.
2. Is the heuristic consistent? Yes.
3. Solve using best-first search (greedy)

Step	Priority Queue	Expand
1		
2		
3		
4		
5		
6		
7		
8		

Solution:

4. Solve using A-star search

Step	Priority Queue	Expand
1		
2		
3		
4		
5		
6		
7		
8		

Solution: