

Homework 1

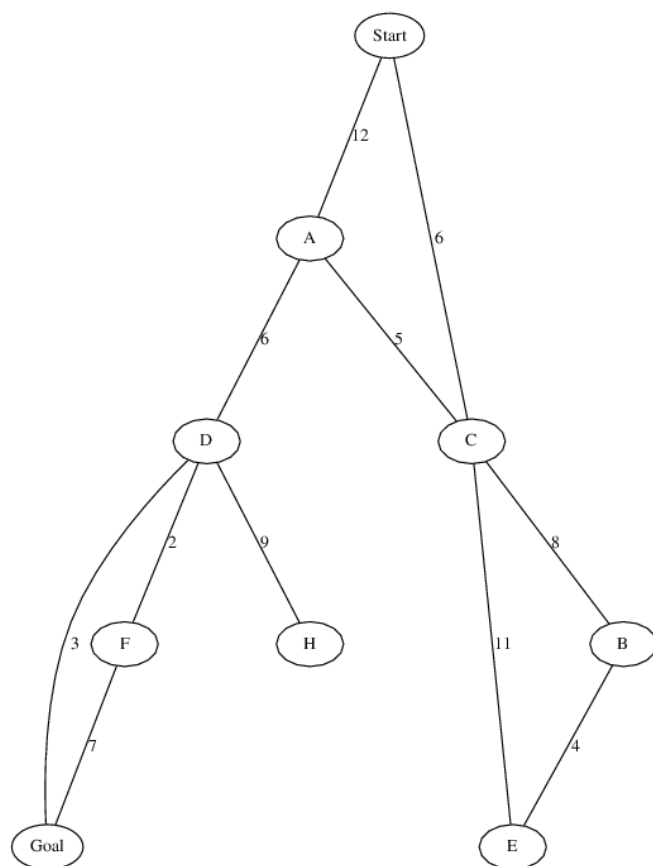
Assigned: Sep 13

Due: Sep 20, before class

Submit: doc or pdf via Brightspace

Search Algorithms

Path from Start to Goal for an undirected graph:



Edge weights are on the diagram, use the below h-function for part 3.

	A	B	C	D	E	F	H
h(n)	9	24	16	2	27	5	12

Questions:

- You can assume a visited-set that avoids revisiting nodes.
 - For BFS and ID, choose the lower alphabetical first (so A before B, etc.)
- [3 pts.] Show the order of nodes visited using Breadth First Search (BFS), and the final path selected. Is this optimal? Why or why not?
 - [3 pts.] Show the order of nodes visited using Iterative Deepening (initial depth of 2, increasing depth by 1), and the final path selected. Is this optimal?

Why or why not?

3. [4 pts.] Using the above h-function, show the order of nodes visited using A*, and the final path selected. Is this optimal? Why or why not?