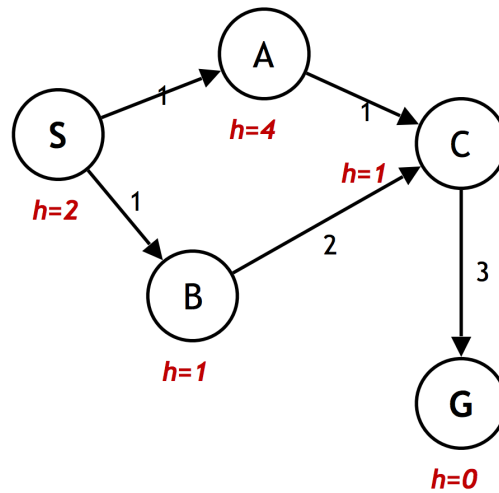


CSE 5525 Artificial Intelligence II
Homework #1a (optional): A* Graph vs. Tree Search
Wei Xu, Ohio State University

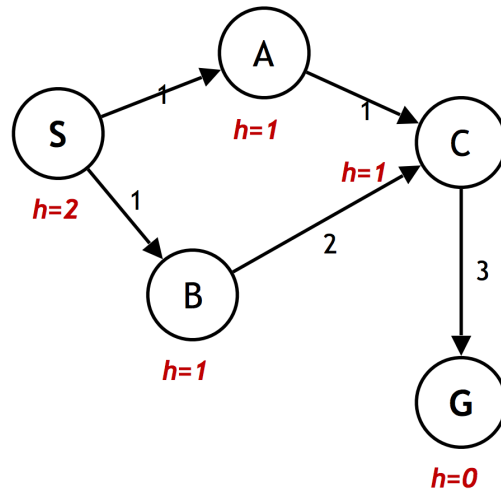
Your Name: _____ OSU Username: _____

1. Consider the following state-space graph with transition costs and associated heuristic h . S is the start state and G is the goal.



- (a) **(1 points)** Trace an execution of A* **graph search** starting at S . Show the node in the search tree (path in the state graph) that is expanded at each step and its priority for expansion.
- (b) **(1 points)** Now trace an execution of A* **tree search**.

2. How about this state-space graph with transition costs and associated heuristic h ? S is the start state and G is the goal.



- (a) **(1 points)** Trace an execution of A* **graph search** starting at S . Show the node in the search tree (path in the state graph) that is expanded at each step and its priority for expansion.

- (b) **(1 points)** Now trace an execution of A* **tree search**.