

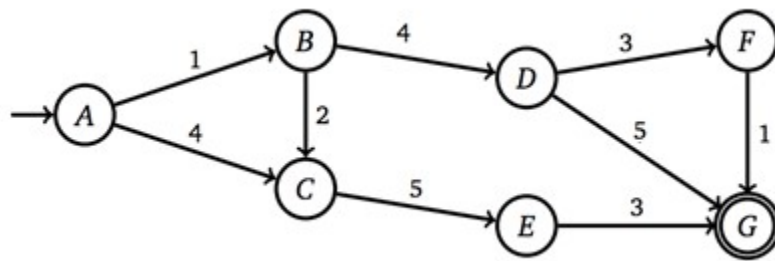
**Project 1: Search**

This non-programming problem is part of Project 1. Please add your answers to this document and submit your completed document along with your solution to the Pac-Man project.

Look at the following graph. Node A is the start node (indicated with the arrow) and G is the goal (indicated by the double circle).

The table gives you the heuristic values  $h(n)$  for each node, however  $h(B)$  is unknown.

$n$	$h(n)$
A	5
B	?
C	4
D	3
E	3
F	1
G	0



Provide the range of values for  $h(B)$  for which  $h$  would be admissible.

If you were to follow the search strategies listed in the table, which of the listed paths are possible? Indicate valid paths by marking an X in the appropriate row(s). You may assume that  $h$  is admissible in each case. In some cases, more than one path may be a valid result, and you should mark all such paths.

Search algorithm	A – C – E – G	A – B – C – E – G	A – B – D – G	A – B – D – F – G
Depth first				
Breadth first				
$A^*$ with heuristic $h$				