Facultad de Ingeniería en Electricidad y Computación
Artificial Intelligence

Homework # 2. Heuristic Search Mechanisms:

Work as a group and answer each of the following questions. You must report only one document as a group, and place it in SIDWeb 4.0, section “Trabajos”.

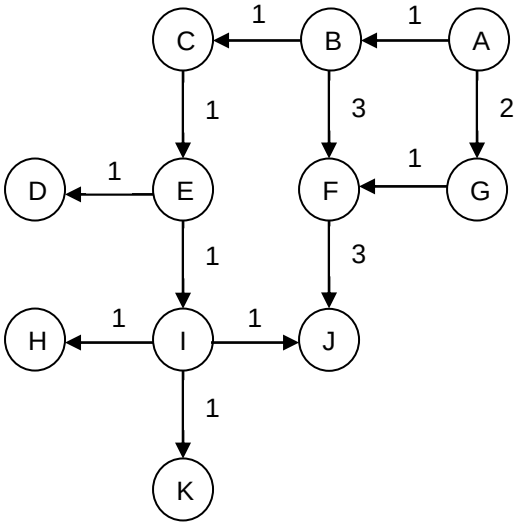
DO NOT *send the homework via email.*

1. The “Best First” search algorithm uses a CLOSE list to detect loops:

a) (2 points) What would be the effect of eliminating this list and use *g(n)* instead (the *g* component of the heuristic function *f*)?.

b) (3 points) Compare the efficiency of the two methods in terms of time and memory used.

2. (5 points) Consider the following graph, where nodes are labelled alphabetically and links have associated costs. As a group discuss and answer the following questions?



List the nodes in open and close lists as well as the current state “X”, for every iteration while searching for *J* from *B*, using Best First search. Use the costs in the links as *g(n)*, and assume the distance to the goal is the minimum skip distance; that is, *h(n)* is the minimum number of links between a node and the goal.