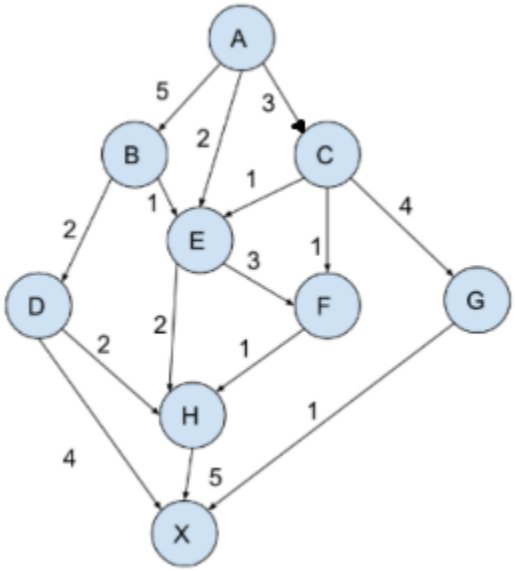
Brac University

CSE422: Artificial Intelligence

Question 1 (CO1)

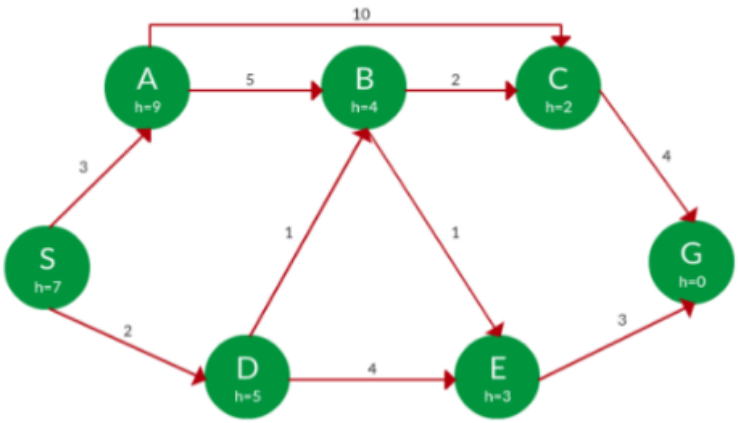


Node	h-Value
A	7
B	5
C	6
D	3
E	4
F	4
G	2
H	2
X	0

- Considering A as the start node, apply Graph version of A* and Greedy Best First Search on the given graph to find the path and the cost of the path.
- Is the heuristic consistent? Show calculations and explain.

Question 2 (CO1)

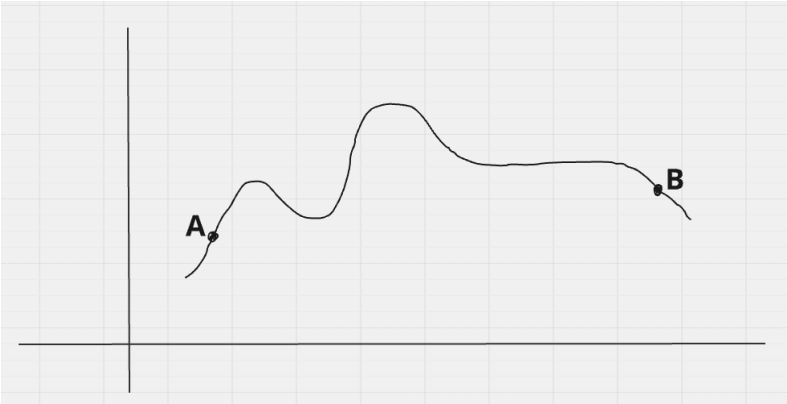
Apply tree A* and Greedy Best First Search on the given graph to find the path and the cost of the path. (Consider S as the start node)



Question 3 (CO1)

Showcase a graph of four nodes where the heuristic is admissible but not consistent..

Question 4 (CO1)

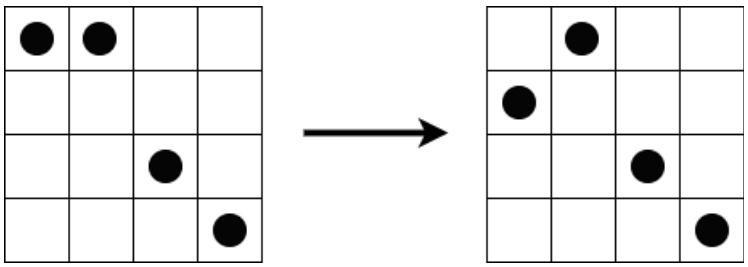


- Discuss the problem a hill climb algorithm would face if it started from point A
- Discuss the problem a hill climb algorithm would face if it started from point B
- Discuss the remedies you can come up with to address the aforementioned problems

Question 5 (CO1)

Showcase local maxima and plateaus with an 8-queen state space. Consider that for a single action, only one queen can be moved a slot up, down, left, or right. You may also consider the branching factor as 2.

(An example action of 4-queen is given below)



Question 6 (CO1)

Briefly discuss the role of the temperature in the simulated annealing algorithm.