Department of Computer Science
Forman Christian College University

COMP360: Introduction to AI
Spring 2022

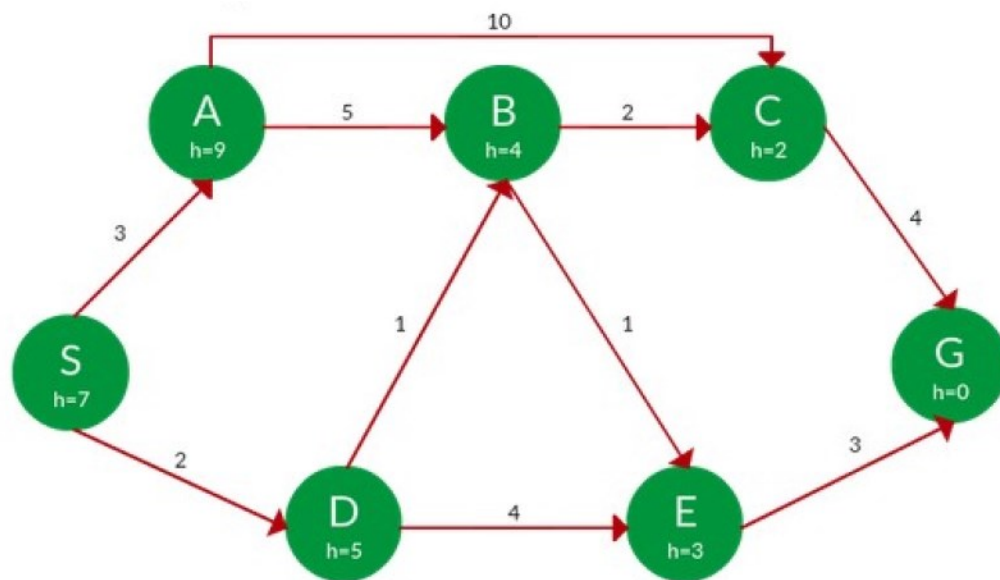| Task 1 (10 Marks)	Task 2 (10 Marks)	Total (20 Marks)

Lab 4: A* Search

Lab Instructions:

- Get your attendance marked before leaving the classroom.
- This is an individual Lab assignment. Each student must submit their own work.
- Download the "a_star_lab4.zip" file from tmoodle as it is and unzip it.
- IMPORTANT: Run the lab4.py file and make sure it runs without any errors.
- Then populate the below mentioned files with your implementation.
- After you're done with your implementation, change the python file "name_roll_lab4.py" and replace your "name" and "roll_no".
- Finally zip the files and upload them on tmoodle.

Task 1:

Modify graph.py to have the ability to store heuristics. Fill out the function 'get_h' in graph.py to get heuristic for a node: input will be a Node and output will be heuristic. Create the following graph in graph.py and check all its methods.

Find the path to reach from **S** to **G** using **A*** search.

Task 2:
Use this updated graph class to represent the above graph and find the shortest path and its cost from S to G by implementing A* Search in the lab4.py file.