

# Project 1: Search Algorithms

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**Aims:** Get familiar with search algorithms in practice.

**Code examples:** <http://aima.cs.berkeley.edu/code.html>

**Todo list:** Implement the following algorithms:

**A1.** Breadth first tree search

**A2.** Depth first tree search

**A3.** Uniform-cost tree search

**A4.** A\* tree search

**A5.** A\* graph search

Generate search results for the following graphs (For Graph 1-3, we only need results of **A1-A2**; For Graph 4-5, we need results of **A1-A5**.)

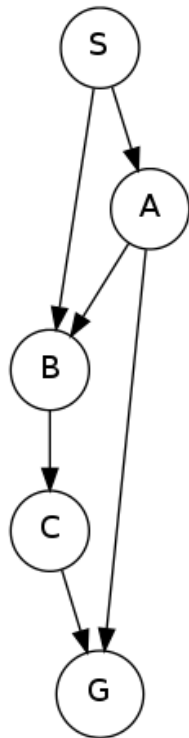
**Project results:**

Outputs of all the nodes you dequeued from the fringe (considering the alphabetical order) for all the algorithms.

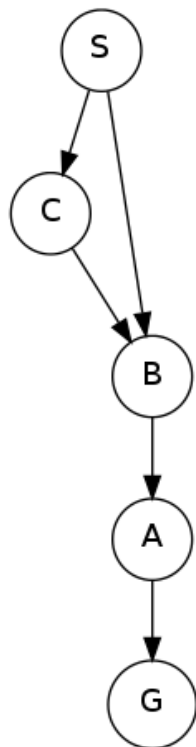
For the submission, you will need to include:

1. Your code in a zipped file
2. The output of all the results (dequeuing sequence)
3. Configuration: compiling system, programming language, how to run your program.

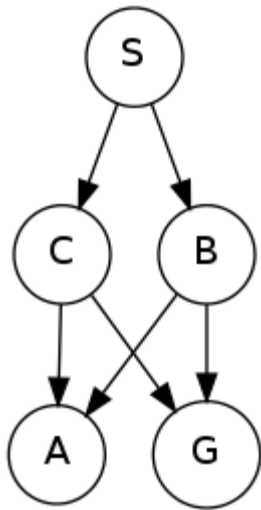
Graph 1:



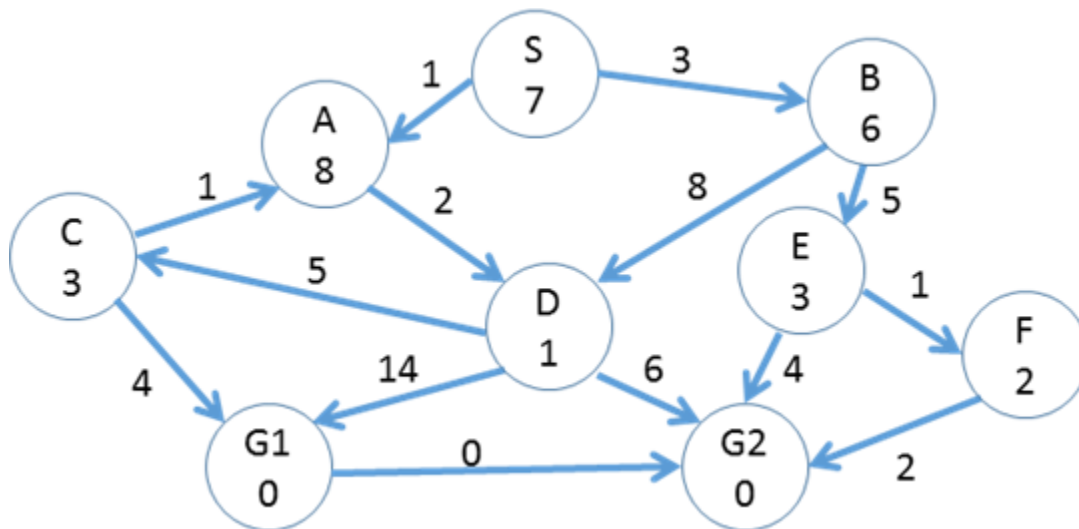
Graph 2:



Graph 3:



Graph 4: Output the sequence stopped by getting one of the gold state (G1 or G2). Arcs are labeled with the action costs (lower is better) and heuristic values to a goal are reported inside nodes. If there is loop in the output, please stop after three loops.



Graph 5: Arcs are labeled with action costs and states are labeled with heuristic values.

