# Practice Search Problem

Solve the problem using the Best-First version of the Generic Search algorithm
( $f(n) = g(n) + h(n)$ ) presented in class. For each iteration of the algorithm, indicate the
current state and the members of the open list at the end of the iteration. You may not
need to use as many iterations as spaces provided.

Assume that A is the initial state and G is the goal state. Assume successors are
generated in alphabetical order.
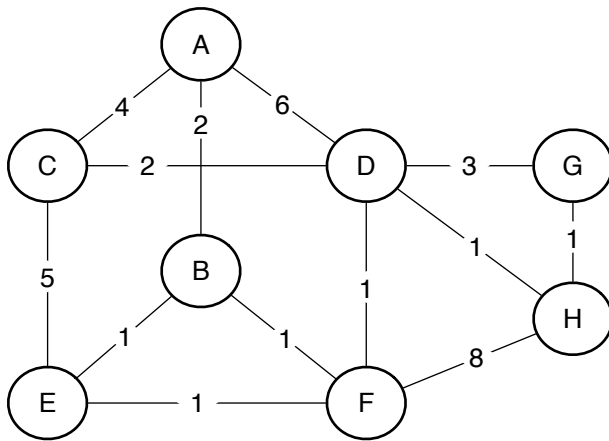


| state | h() |
|-------|-----|
| A | 6 |
| B | 3 |
| C | 4 |
| D | 3 |
| E | 3 |
| F | 4 |
| G | 0 |
| H | 1 |
| | |

**Iteration #1:**
Current state: ___A___
Open list at end of iteration: [ __B(5), C(8), D(9)_____ ]

**Iteration #2:**
Current state: __B____
Open list at end of iteration: [ __E(6), F(7), C(8), D(9)_____ ]

**Iteration #3:**
Current state: __E____
Open list at end of iteration: [ ___ F(7), C(8), D(9)_____ ]

**Iteration #4:**
Current state: ___F___
Open list at end of iteration: [ ____D(7), C(8), H(12)_____ ]

**Iteration #5:**
Current state: ___D___
Open list at end of iteration: [ ___H(6), G(7), C(8)_____ ]

**Iteration #6:**
Current state: ___*H*___
Open list at end of iteration: [ ___*G(6), C(8)*_____ ]

**Iteration #7:**
Current state: ___*G*___
Open list at end of iteration: [ ___*C(8)*, *doesn't really matter*_____ ]

**Iteration #8:**
Current state: _____
Open list at end of iteration: [ _____ ]

(1 pt.) Final solution: _____*[A B F D H G]*_____