

## 2. (a) Depth-First Search

Order of visiting:  $[1, 2, 5, 6, 10, 11, 3, 7, 12, 13, 4, 8, 9]$

Open-list at step 3:  $[6, 3, 4]$

(after expanding 1, 2, 5).

## (b) Depth-First Iterative-Deepening Search

Order of visiting:  $[1, 1, 2, 3, 4, 1, 2, 5, 6, 3, 7, 4, 8, 9,$   
 $1, 2, 5, 6, 10, 11, 3, 7, 12, 13, 4, 8, 9]$

Open-list at step 3:  ~~$[7, 4]$~~   $[4, 7]$

(after expanding 1, 2, 3)

## (c) Uniform-cost Search:

Order of visiting:  $[1, 2, \del{4}, 3, 4, 5, 6, 7, 8, 9,$   
 $10, 11, 12, 13]$

Open-list at step 3:  $[4, 5, 6, 7]$

(after expanding 1, 2, 3)

(d) Best-First Search (Greedy;  $f(n) = h(n)$ )

Order of visiting:  $[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]$

Open-list at step 3:  $[4, 5, 6, 7]$

(after expanding 1, 2, 3)

(e) A\* search

Order of visiting:  $[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]$

Open-list at step 3:  $[4, 5, 6, 7]$

(after expanding 1, 2, 3).