

# Real World Algorithms: A Beginners Guide

## Errata to the Second Printing

Last updated 17 February 2018

This document lists the changes that should be made to *Real World Algorithms* to correct mistakes that made their way to printing, to improve infelicities that the author spotted too late, or update the material with something that the author did not know at the time of writing the book.

There are three different kinds of changes noted here. In all of them the date that they became known to the author is given at the first line of each item. The name of the person who suggested the change is also given at the end of each change.

► **Page 1, line 1** \_\_\_\_\_ 1 Jan 1

These are technical or typographical errors.

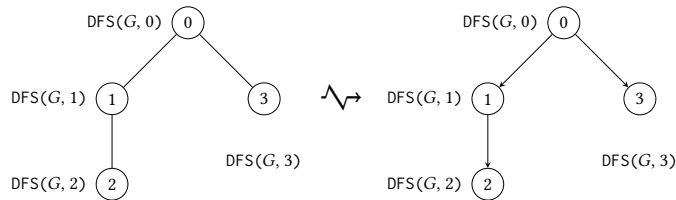
**Page 1, line 1** \_\_\_\_\_ 1 Jan 1

These are changes that improve the book, even if they do not correct an error. They include small rewordings, or material that became known to the author after the book was published.

*Page 1, line 1* \_\_\_\_\_ 1 Jan 1

These are minor fixes that although they do not make a big difference they do hurt the author. Some of them might strain the reader's eye to see where the improvement is exactly.

- **Page 20, line -1** \_\_\_\_\_ 14 Feb 2018  
 we cannot execute line 7 more than  $n$  times.  $\wedge \rightarrow$  we cannot execute line 7 more than  $n - 1$  times; note that the last day is pushed, but not popped. (K. Marinakos)
- **Page 32, line -2** \_\_\_\_\_ 16 Feb 2018  
 $2.5 \times 10^{25}$ , or 7 septillion  $\wedge \rightarrow 2.5 \times 10^{19}$ , or 25 quintillion (K. Marinakos)
- **Page 32, line 8** \_\_\_\_\_ 16 Feb 2018  
 In an adjacency matrix, vertices are represented by row and column indices, and vertices are represented by the contents of the matrix.  $\wedge \rightarrow$  In an adjacency matrix, the vertices are represented by row and column indices, and the edges are represented by the contents of the matrix. (K. Marinakos)
- **Page 39, line -5** \_\_\_\_\_ 16 Feb 2018  
 Similarly, if  $|E|$  is the number of edges in the graph,  $\wedge \rightarrow$  Similarly, if  $|E|$  is the number of edges in the graph, counting undirected edges twice, (K. Marinakos)
- **Page 44, figure 2.21** \_\_\_\_\_ 17 Feb 2018

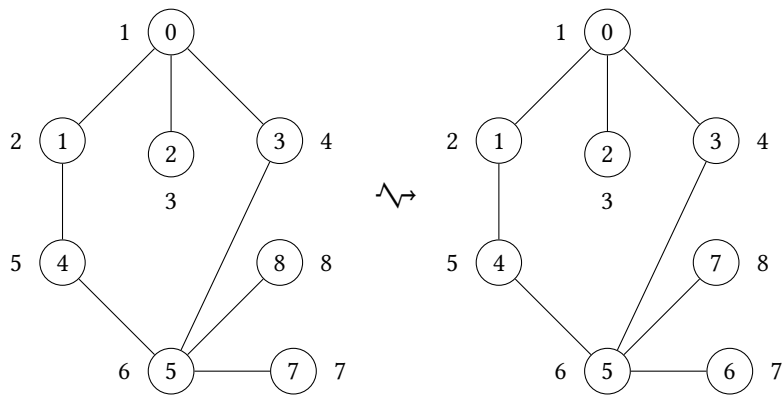


(K. Marinakos)

- **Page 49, algorithm 2.3, line 7** \_\_\_\_\_ 16 Feb 2018  
 $c \leftarrow \text{Pop}(s) \wedge \rightarrow c \leftarrow \text{Pop}(S)$  (K. Marinakos)
- **Page 50, lines 2-4** \_\_\_\_\_ 16 Feb 2018  
 Line 2 is executed  $|V|$  times, once per each vertex. Then  $\text{DFS}(G, \text{node})$  is called exactly once per edge, in line 4, that is,  $|E|$  times.  $\wedge \rightarrow$  Line 4 is executed  $|V|$  times, once per each vertex. The condition in line 3 is called exactly once for each edge of each adjacency list, that is,  $|E|$  times.
- **Page 54, line 5** \_\_\_\_\_ 16 Feb 2018  
 we only node  $\wedge \rightarrow$  we only note (K. Marinakos)
- **Page 49, line 4** \_\_\_\_\_ 17 Feb 2018  
 the same as algorithm 2.4  $\wedge \rightarrow$  the same as algorithm 2.3 (K. Marinakos)

► Page 55, figure 2.28a

17 Feb 2018



(K. Marinakos)