

Most of these errors were pointed out by Cem Say; a *huge* thanks to him. We are also grateful to Michel Burlet, Kourosh Derakshan, Daniel Hsu, and Joe Zachary.

1. Algorithms with numbers

- Page 29, end of fourth paragraph. The randomized algorithms for sorting and median finding are on pages 56 and 53, respectively.
- Page 29, fifth paragraph. The minimum cut algorithm is on page 140.

2. Divide-and-conquer algorithms

- Page 47, Figure 2.1. The last line should read “return $P_1 \times 2^{2\lfloor n/2 \rfloor} + (P_3 - P_1 - P_2) \times 2^{\lfloor n/2 \rfloor} + P_2$ ”.
- Page 79, Exercise 2.33. “You can do this in $O(n^{\log_2 7})$ steps”.

3. Decompositions of graphs

- Page 84, Figure 3.3. The call to `explore` should read `explore(G, u)`.
- Page 85, Figure 3.5. The call to `explore` should read `explore(G, v)`.
- Page 87, just before **Property**. The reference should be to Figure 3.6, not 3.4.
- Page 88, Figure 3.7. On the right, there should be a dotted arrow from A to F .
- Page 90, near the middle. The table of edge types is on page 89, not 88.
- Page 94, box on *Crawling fast*. The reference for breadth-first search is Chapter 4, not Chapter 2.
- Page 100, Exercise 3.26 (a). Show that an undirected graph is Eulerian if and only if *it is connected and all its vertices have even degree*.

4. Paths in graphs

- Page 114, second last paragraph of box. The reference to a “linked list” should actually read “array”.
- Page 117, Figure 4.12. The edge $B \rightarrow A$ should have length -2 .

5. Greedy algorithms

- Page 132, Figure 5.4. Second line should read: “Output: A minimum spanning tree defined by the edges X ”.
- Page 133, Property 1. Should read “For any $x \neq \pi(x)$, $\text{rank}(x) < \text{rank}(\pi(x))$ ”.
- Page 139, Prim’s algorithm. The last three lines are garbled, and should read:

```
if cost(z) > w(v, z):
    cost(z) = w(v, z)
    prev(z) = v
    decreaskey(H, z)
```

- Page 140, box on minimum cut. Here n and m refer to $|V|$ and $|E|$, respectively. Also, in the very last equation, the final fraction should be $2/n(n-1)$, not $1/n(n-1)$.
- Page 155, Exercise 5.35. Should read “at most $n(n-1)/2$ distinct minimum cuts”.

7. Linear programming and reductions

- Page 193, Section 7.1.2. We need another constraint, $s_{12} = 0$, since we must end the year with no stored carpets.
- Page 220, end of first paragraph. Should be “preceding box” rather than “following box”.
- Page 230, Exercise 7.31. Ford-Fulkerson is the max-flow algorithm from Section 7.2.

8. NP-complete problems

- Page 260, reduction from Rudrata Cycle to TSP. Here $n = |V|$. The first line should stipulate $\alpha \geq 1$ rather than $\alpha > 1$.

Historical notes and further reading

- Page 317. Should be Volker Strassen rather than Vblker Strassen. A slightly faster algorithm for integer multiplication, due to Martin Furer and also based on the FFT, is now available.
- Page 318. The quantum algorithm by Peter Shor is for *factoring*, not *primality*.