

I have made the following corrections on the notes handed out. You can either download a new version OR make them yourself by hand using this list.

For each correction I include the email address of WHO alerted me to it, and how much they get for it. Recall that TYOPS with no math impact are 50 cents, while any mistake that makes math go from wrong to right is \$1.00.

1 Corrections to AMORT. DS

1. Page 5. Beginning of section 2.1.

axillary

should be

auxiliary.

(Credit: elnatanbcr. 50 cents)

2. Page 1. After Notation 1.1.

Replace

Dijkstra

with

Dijistra.

(Credit: elnatanbcr. 50 cents)

3. Page 3. 5 lines from the bottom.

Replace

Dijkstra

with

(Credit: elnatanbcr. 50 cents)

4. Page 15. Bottom. When discussing how many times COMBINE is called during DELETEMIN for a FIB-HEAP, old version has

$$\frac{1}{2} \sum a_i = t(H).$$

$t(H)$ was the total number of heaps before a node was deleted, but the a_i should sum to the total number of heaps AFTER that node was deleted. So $t(H)$ is now replaced by $O(t(H) + D(n))$ in that and the next lines. This clearly doesn't change the fact that DELETMIN has actual cost $O(t(H) + D(n))$.

(Credit: elnatanbcr. \$1.00)

5. Page 16. Top of page. Replace

$$\sum_{i=0}^n A_i$$

by

$$\sum_{i=0}^{D(n)} A_i$$

(Credit: elnatanbcr. \$1.00)

6. Page 16, section 4.5 DECKEY

Replace

We are not going to decrease the key and trickle up. For the DECKEY part we are going to to something simple,

with

*We are not going to decrease the key and trickle up. For the DECKEY part we are going to *do* something simple*

(Credit: klcheng. 50 cents)

7. Page 16. DECKEY in old version does not say what to do if you reach the root. Replace

If y is unmarked then mark it else DECKEY($y, val(y)$)

with

If y is unmarked then

if y is NOT ROOT mark it ENDIF

else DECKEY($y, val(y)$) ENDIF

(Credit: elnatanbcr. \$1.00)

8. Page 17. In old version I noted that you unmark c nodes, but did not note that you also mark one node. Hence Replace

The number of new heaps created is c . The number of marked nodes has decreased by c

with

The number of new heaps created is c . We have unmarked c nodes and marked one, so the number of marked nodes has decreased by $c - 1$.

(Credit: elnatanbcr. \$1.00)

9. Page 19. Lemma 4.8 is rephrased to say

If x has degree AT LEAST d then the heap rooted at x has at least $F(d)$ nodes.

This is the fact used in the inductive part of the proof, since you don't have equality for the y_i . Also, the final line should be there are AT LEAST that many nodes in the heap rooted at x .

(Credit: elnatanbcr. \$2.00)

10. Page 21. Replace

ways ways

with

ways

(Credit: elnatanbcr. 50 cents)

11. Page 23. 3 lines from the bottom.

Replace

Dijkstra

with

Dijistra.

(Credit: elnatanbcr. \$1.00)

(Credit: elnatanbcr)

2 Correction to MST notes

Page 11. In the F-T algorithm when we update $d(S)$ we should also update $e(S)$. After the update of $d(S)$ add

$$e(S) = (S, T)$$

(Credit jschang. \$1.00)

3 Correction to the DIJKSTRA WITH CONSTANT BOUND notes

1. Page 4, 1.1 INSERT line 11, the note.
 $O(\log L)$ should be $O(\log C)$.
 $O(\log \log L)$ should be $O(\log \log C)$.
(Credit swpark81. \$1.00)
2. Page 7, Para: RIGHT THING, Line 2: You have
The old $B_j \dots$ had $\leq 2^{j-2}$ elements.
There is no bound on the number of elements that can get hashed to this bucket. so should have been:
The old $B_j \dots$ had a range of 2^{j-2} .
(Credit aruncv. \$1.00)
3. Page 7, Para: WRONG THING, line 3: B_5 would have an have an
Should be B_5 would have an
(Credit arucv. 50 cents)
4. page 8. right before 1.4 SUMMING UP line 19. $\alpha < 1$ should be $\alpha > 1$
(Credit swpark81. \$1.00)
5. Page 9. For bounded edge weight Dijkstra, the summary says DELETMIN is $O(1)$, is should be $\log C$.
(Credit bender. \$1.00).

4 THE WINNERS!

elnatanber: \$8.50
swpark81: \$2.00
arucv: \$1.50
jschng: \$1.00
bender: \$1.00
klcheng: \$0.50