Errata for Online Computation and Competitive Analysis

pp. 240 line 10

$C_{\log D}$ should be replaced by $C_{\log D+1}$ because we later assume that we have 2^{i-1} calls in level i. In the last level we have $N-1$ calls and the described change in index gives us $2^{\log D+1-1} = D = N-1$.

This correction means that the probability measure defined in line 13 is not a probability measure anymore, because the sum of the probabilities of all outcomes is different from 1. This can be fixed by changing the probability to

$$\frac{2^{-i}}{1 - \frac{1}{2 \cdot D}}$$

Finally in line 17 the upper bound of the summation are to be changed to $\log D + 1$. The evaluation of the summation in line 18 can then be changed to

$$> \frac{1}{2} \log D + \frac{1}{2}$$

which is $> \frac{1}{2} \log N$ for $N > 2$. This means the errata result in a tighter bound of $\left\lfloor \frac{\log(N-1)}{2} \right\rfloor + \frac{1}{2}$