

# Errata to the Complexity of Differential Privacy

Salil Vadhan

March 14, 2017

The errors are to the version dated March 14, 2017, posted at <http://privacytools.seas.harvard.edu/publications/complexity-differential-privacy>.

- (Pointed out by Victor Balcer) Applications of the group privacy bound (Lemma 2.2): the factor of  $k$  in  $k \cdot e^{k\varepsilon} \cdot \delta$  was lost in several applications of group privacy. This factor of  $k$  can also be replaced by  $1/(e^\varepsilon - 1)$ , which is  $O(1/\varepsilon)$  for  $\varepsilon \leq 1$  (by the same proof).
  - In the statement of the packing lower bound (Thm 5.13), the  $\delta$  should be replaced with  $m\delta$  (as in the proof) or  $O(\delta/\varepsilon)$  for  $\varepsilon \leq 1$ .
  - In the statement of the packing lower bound for non-redundant queries (Thm 5.14), the  $\log(1/\delta)$  should be replaced with either  $\log(n/\delta)$  or  $\log(1/(\delta \cdot \varepsilon))$ . These are qualitatively as good as the original, since we typically assume  $\delta = 1/n^{\omega(1)} \leq 1/\varepsilon$ .
  - Later references to these bounds are after Thm 5.21, before Thm 7.1, and before Thm 7.2.