Instructions You can write your solutions either in English or French. Please observe the homework policy as described in the course web page.

Consider the Pandora’s box problem for $n$ random variables $X_1, \ldots, X_n$ with respective opening costs $c_1, \ldots, c_n$. Suppose that you can compute the reservation prices only up to a factor $1 + \epsilon$, that is you compute approximations $\tilde{\sigma}_i$ with $\sigma_i/(1 + \epsilon) \leq \tilde{\sigma}_i \leq \sigma_i(1 + \epsilon)$. Can you still get a good performance guarantee as a function of $\epsilon$, or are there instances for which the algorithm’s performance is now terribly bad?