

As president, I will give Dr. X the HAPPY ending. His method of searching the names is efficient, since his method would prioritize the name search from the high-frequency table (which contains the most frequently looked-up names) over the low-frequency table (which contains the less frequently looked-up names). Since it is known that a majority of the name search will stop at the high-frequency table (80%), it would make sense to prioritize this table over the other the less-frequent table, as the latter takes up the minority in name search usage (20%) while also containing the most amount of names of the two available tables (2,000 name entries in the former vs. 8,000 name entries in the latter).

To improve Dr. X's method, we can divide the entire table of 10,000 names into three tables. The first table will contain the most frequently searched names, the second table will contain the less frequently searched names, and the third table will contain all names that have never been searched for. This new method will expand upon Dr. X's method of prioritizing names based on how frequently they are looked up: the more frequently used names will get first priority when names are being looked up, while the names that are less frequently looked up or have never been looked up will get prioritized later.