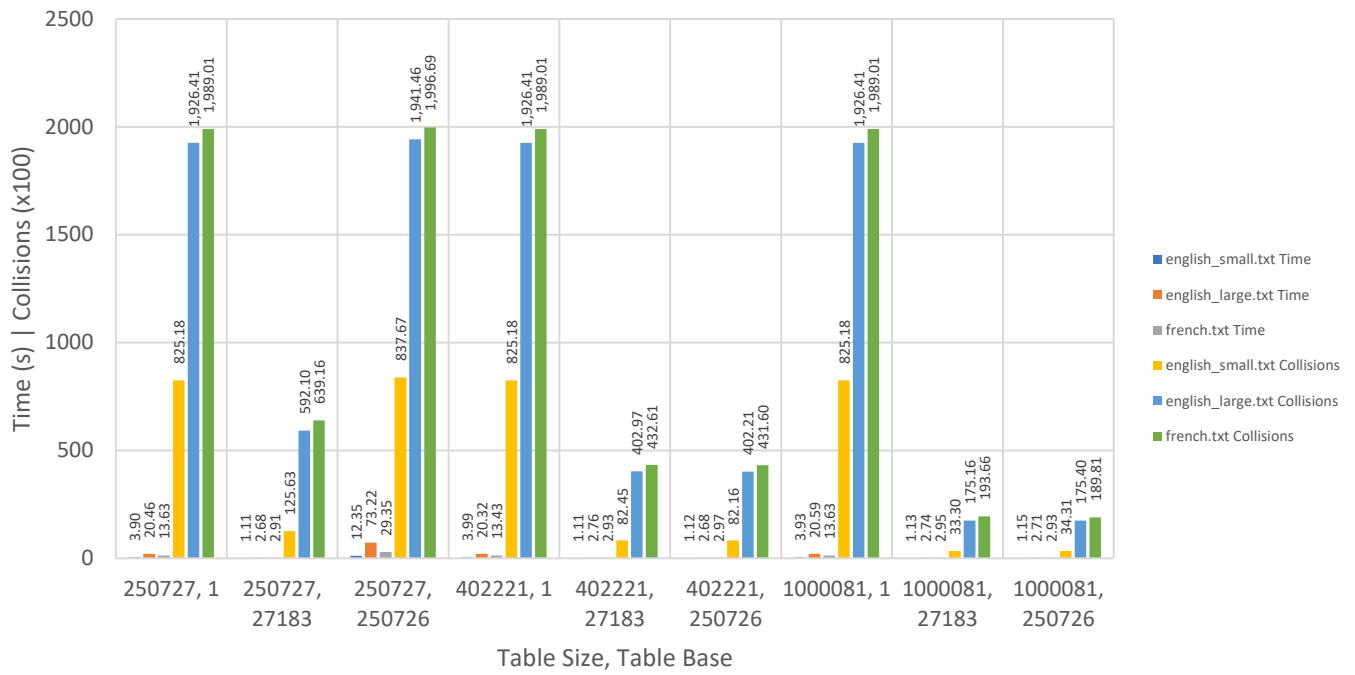
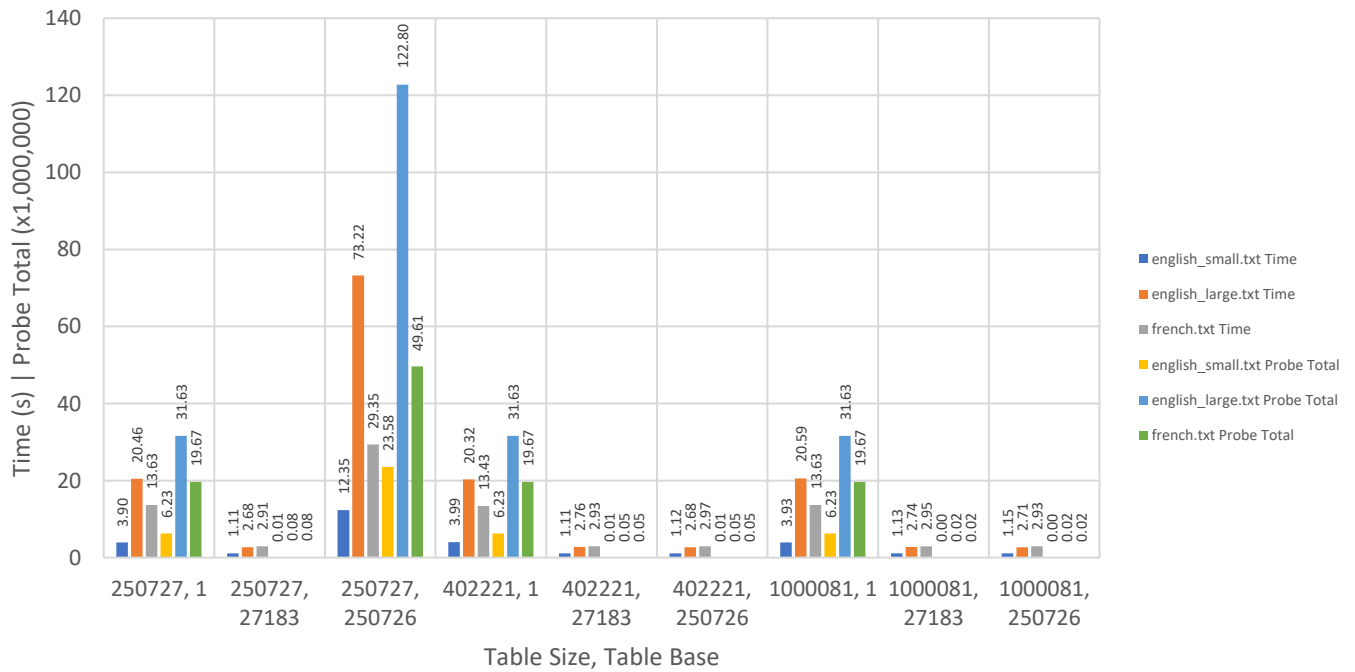


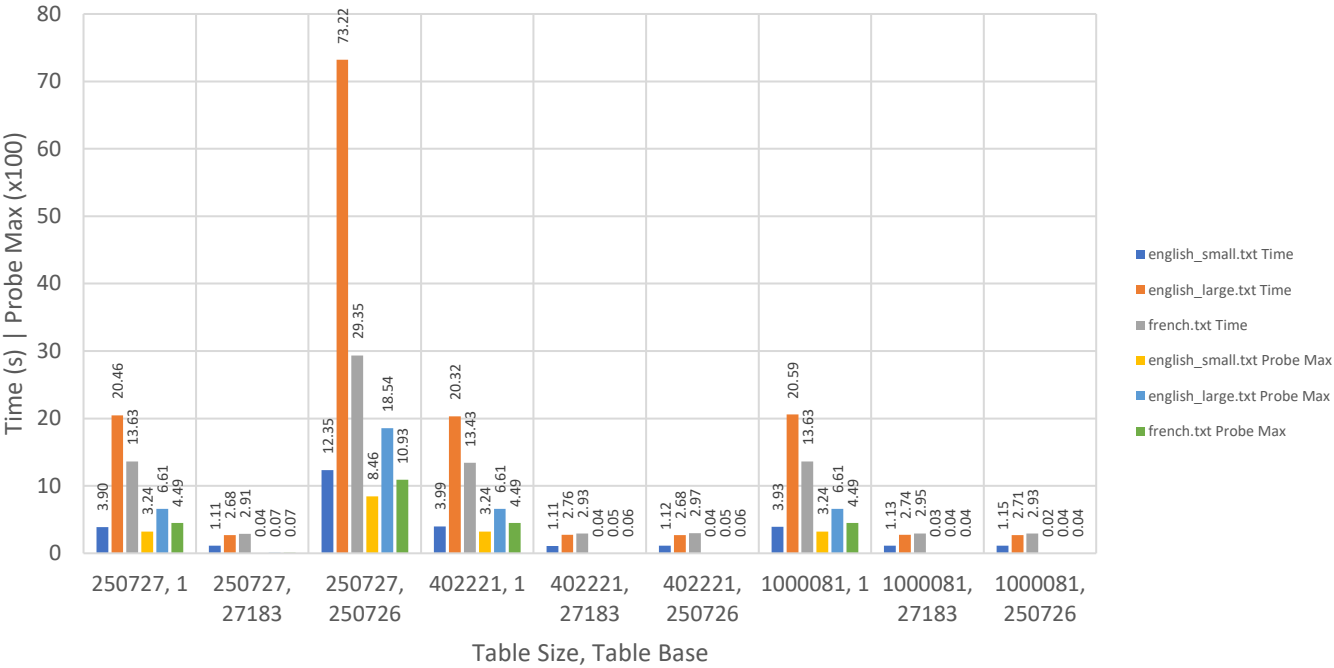
Time,Collisions v. Size,Base



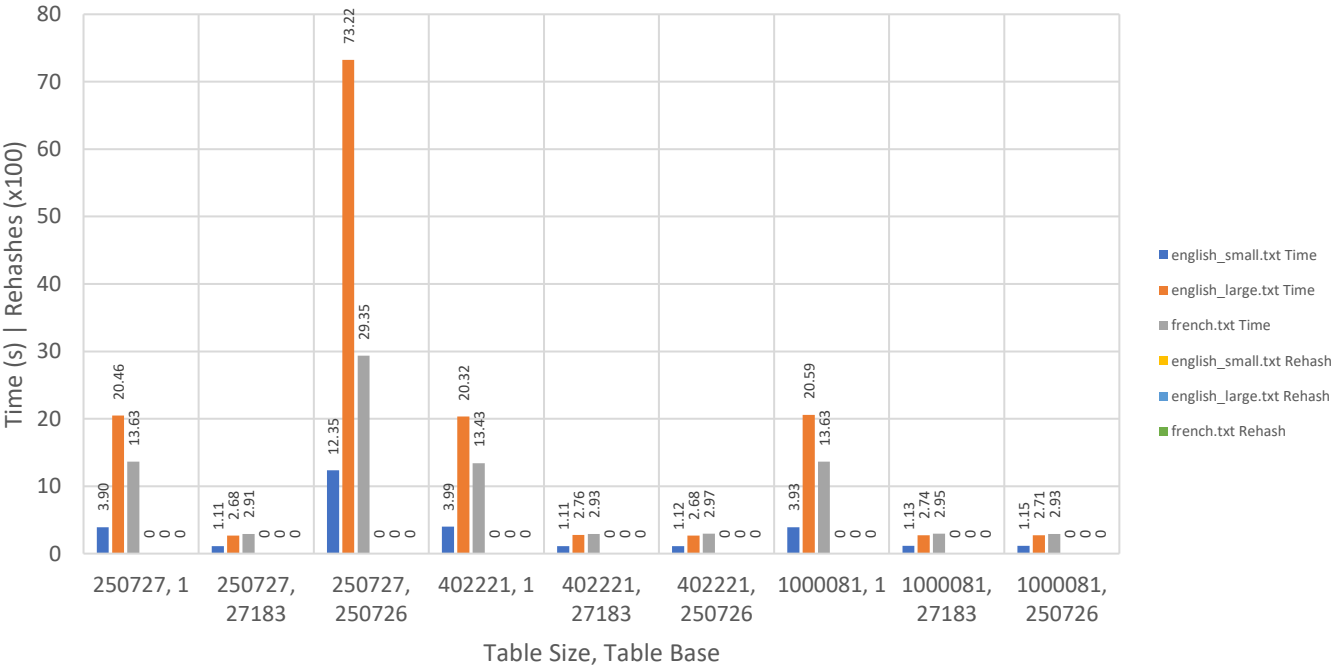
Time,Probe Total v. Size,Base

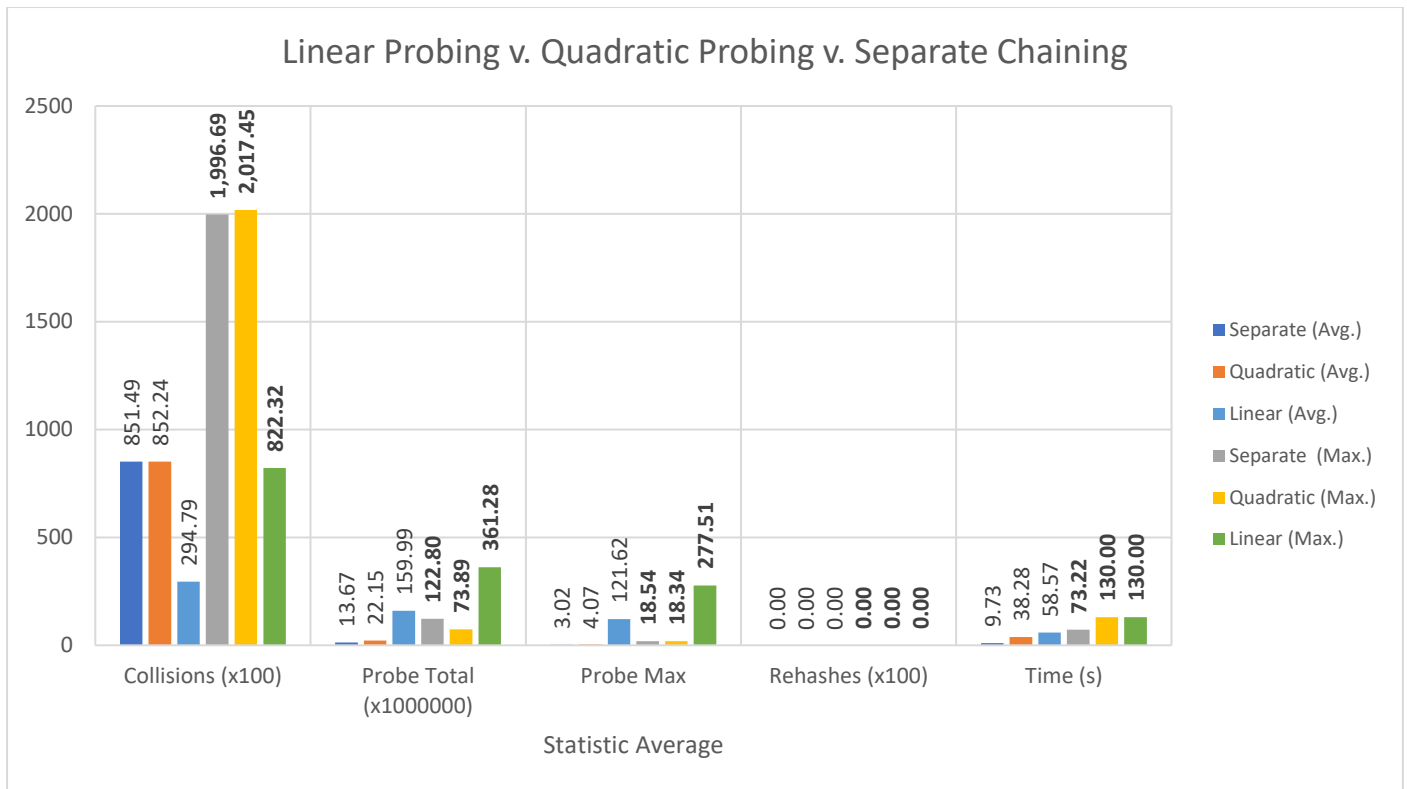


Time,Probe Max v. Size,Base



Time,Rehashes v. Size,Base





- max_time = 120
- It still holds true that Probe Max and Probe Total are the best indicator of runtime performance.
- When comparing linear and quadratic probing to separate chaining it is clear that separate chaining is the most effective solution to collisions and clustering. No combination timed out under separate chaining and the average runtime was around 25.55% of quadratic probing's average and only 16.70% of linear probing's average. This time lead is shown clearly in the Probe Max and Probe Total statistics. The averages for both are far lower than either quadratic or linear probing implementations.
- We once again the quadratic probing and separate chaining result in high collision counts however they have the best performance. This is because the complete more of the task before timing out, thus increasing the collisions in a given time frame. Linear probing saw 12 time-outs whilst quadratic probing only saw 2. Finally, separate chaining did not see any time-outs with the longest running combination being only 73.22 seconds.
- Since separate chaining is not a probing solution to clashes it does not require for the table to be rehashed, thus no reshapes occurred in any instances.

Separate changing has a clear advantage over both linear and quadratic probing. Since it does not resort to probing to resolve collisions, probe lengths are often reduced and the need for rehashing is removed. Increasing performance overall – when an appropriate secondary data structure is used. Eg. Binary Search Tree.