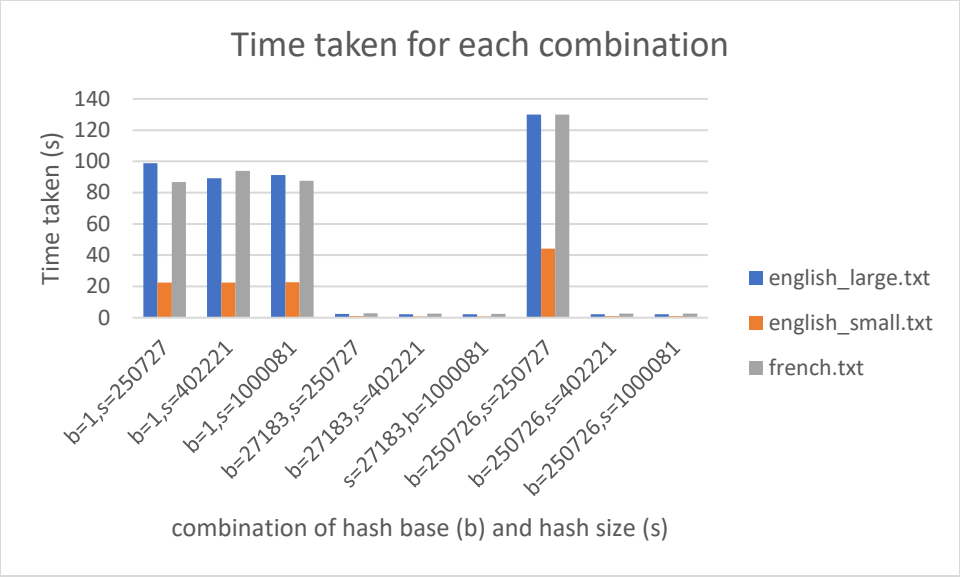
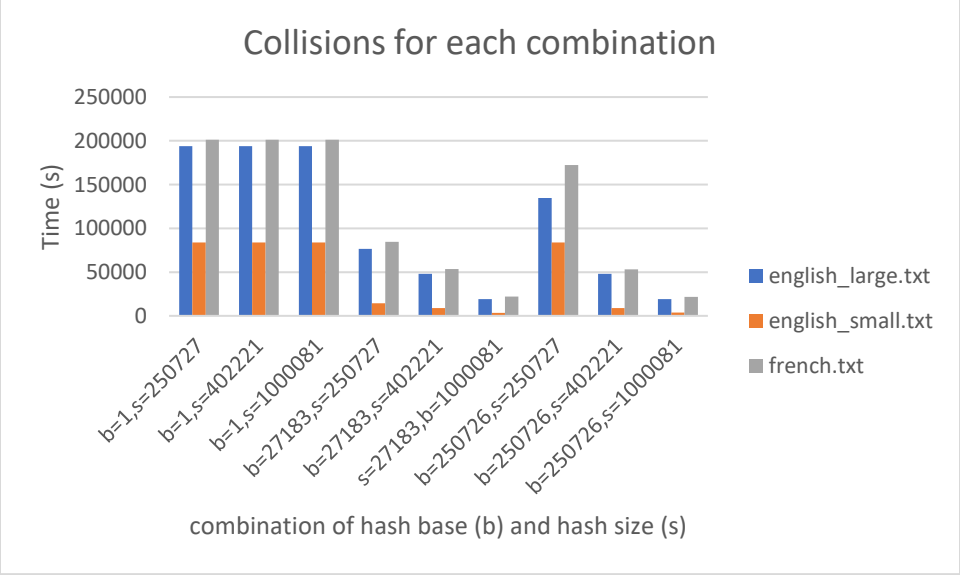
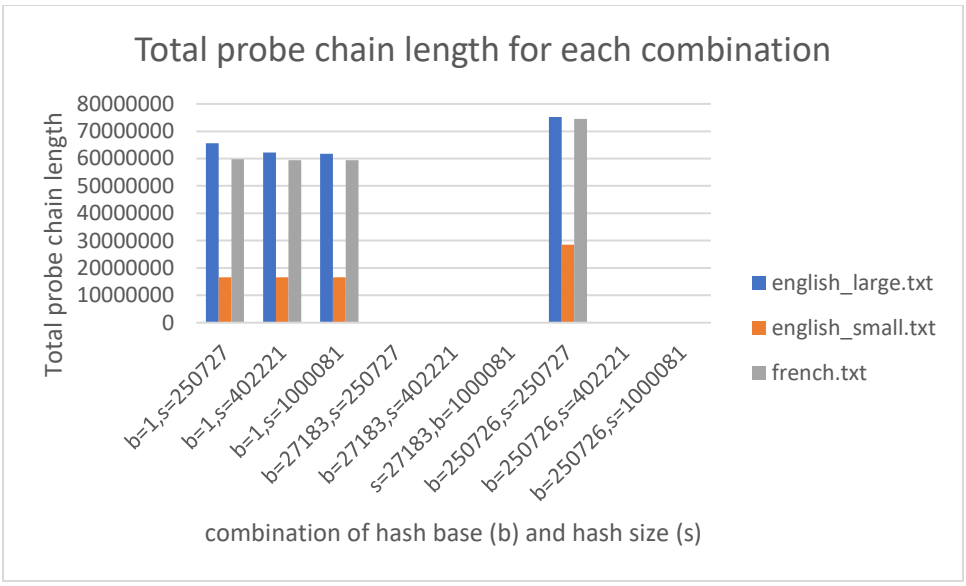
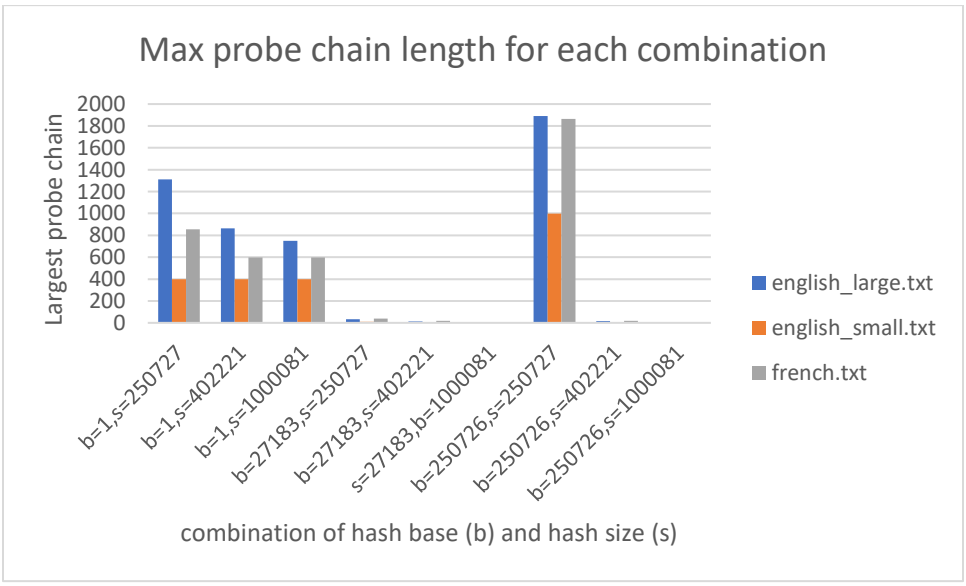
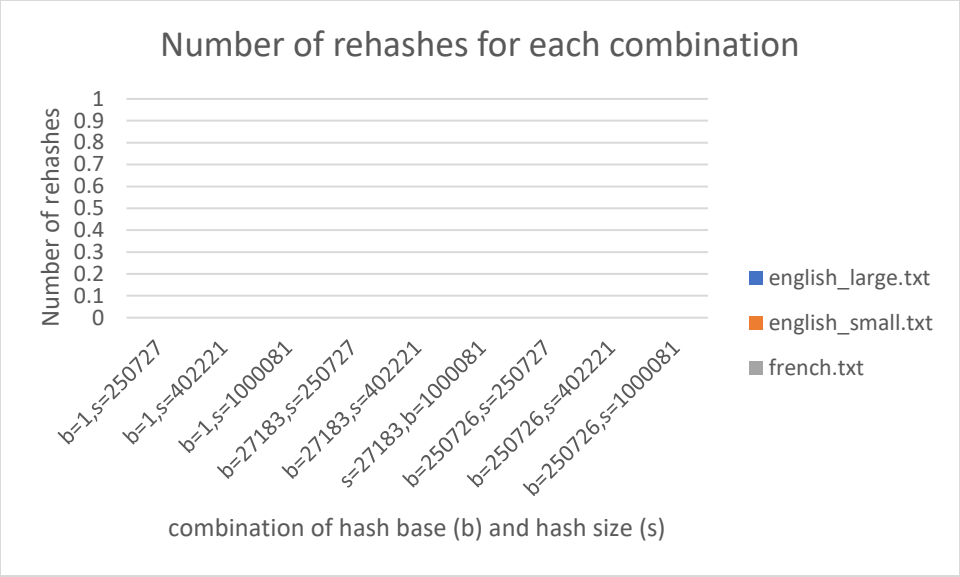

Time taken for each combination
Time taken (s)
140
120
100
80
60
40
20
0
b=1,s=250727
b=1,s=402221
b=1,s=1000081
b=27183,s=250727
b=27183,s=402221
s=27183,b=1000081
b=250726,s=250727
b=250726,s=402221
b=250726,s=1000081
combination of hash base (b) and hash size (s)
english_large.txt
english_small.txt
french.txt


Collisions for each combination
Time (s)
250000
200000
150000
100000
50000
0
b=1,s=250727
b=1,s=402221
b=1,s=1000081
b=27183,s=250727
b=27183,s=402221
s=27183,b=1000081
b=250726,s=250727
b=250726,s=402221
b=250726,s=1000081
combination of hash base (b) and hash size (s)
english_large.txt
english_small.txt
french.txt


Total probe chain length for each combination
Total probe chain length
80000000
70000000
60000000
50000000
40000000
30000000
20000000
10000000
0
b=1,s=250727
b=1,s=402221
b=1,s=1000081
b=27183,s=250727
b=27183,s=402221
b=27183,b=1000081
s=27183,b=1000081
b=250726,s=250727
b=250726,s=402221
b=250726,s=1000081
combination of hash base (b) and hash size (s)
english_large.txt
english_small.txt
french.txt


Max probe chain length for each combination
Largest probe chain
2000
1800
1600
1400
1200
1000
800
600
400
200
0
b=1,s=250727
b=1,s=402221
b=1,s=1000081
b=27183,s=250727
b=27183,s=402221
b=27183,b=1000081
s=27183,b=1000081
b=250726,s=250727
b=250726,s=402221
b=250726,s=1000081
combination of hash base (b) and hash size (s)
english_large.txt
english_small.txt
french.txt



When linear probing was used, 12 timeouts occurred in data sets where the base was either 1 or very close to the hash table size. When using quadratic probing, only two timeouts occurred, and although it's still very close to timing out, it's extremely fast in these cases compared to linear probing as the number of collisions during linear probing for base 1 was around 20,000 and went up to 200,000 for quadratic probing. Probe chain lengths decreased for quadratic probing, meaning it would take less time on average to find an empty spot compared to linear probing. Still no rehashes for quadratic probing as the table size is larger than any data input size.