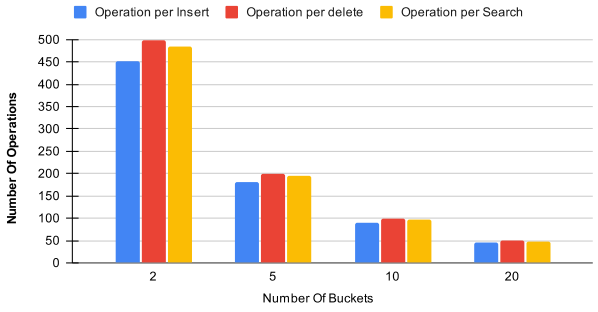
Q3 Report

The Chosen Values of a,b are 11 and 7 respectively.

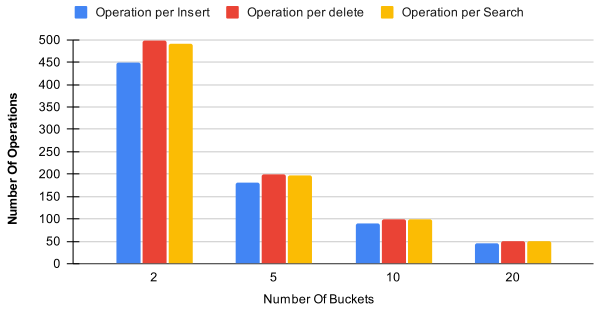
As We observe in the below graphs and tables , we can conclude that the collision per bucket decrease significantly as the number of buckets increase(except in the case where the distinct elements are very less as in File 7,File 10)

FILE 1



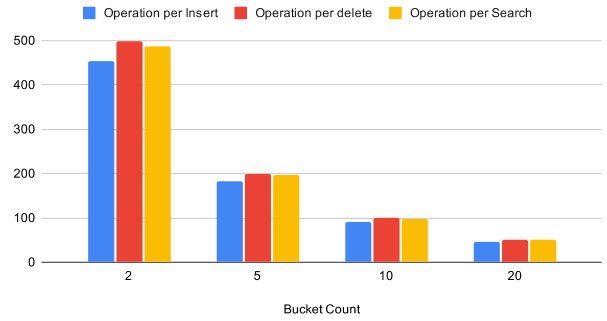
Bucket Count	Operation per Insert	Operation per delete	Operation per Search
2	452.583	499.415	484
5	181.3731	199.659	193.678
10	90.9321	99.485	97.17
20	45.7044	49.491	48.831

FILE 2



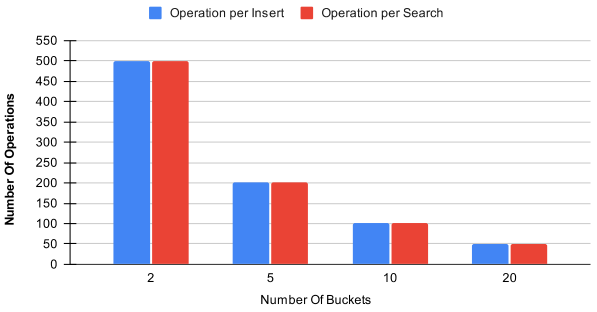
Bucket Count	Operation per Insert	Operation per delete	Operation per Search
2	450.3248	497.378	491.02
5	180.3462	199.388	197.221
10	90.4228	99.221	98.953
20	45.4543	49.387	49.752

File 3



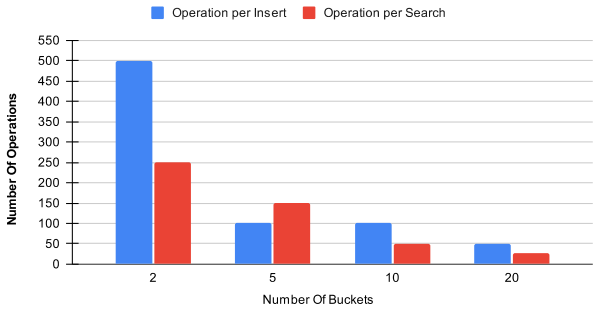
Bucket Count	Operation per Insert	Operation per delete	Operation per Search
2	452.1571	498.204	485.59
5	181.0987	199.112	194.587
10	90.8665	99.151	97.491
20	45.7247	49.236	48.89

FILE 4



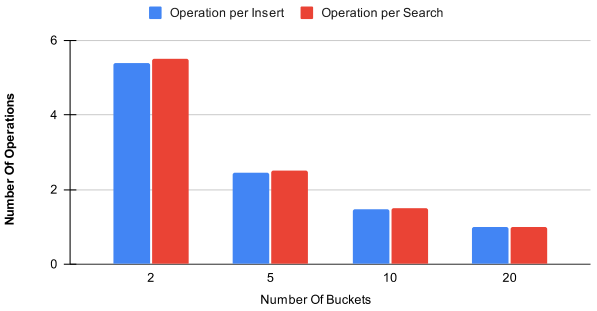
Bucket Count	Operation per Insert	Operation per delete	Operation per Search
2	500.5	-	500.5
5	200.5	-	200.5
10	100.5	-	100.5
20	50.5	-	50.5

FILE 5



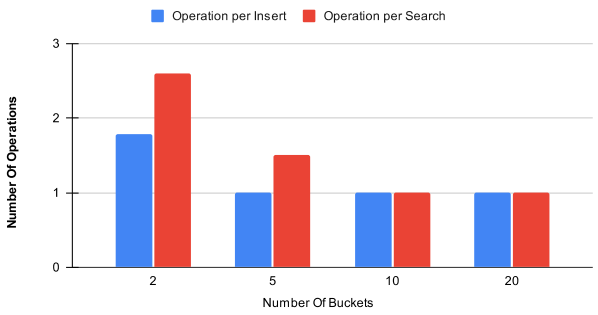
Bucket Count	Operation per Insert	Operation per delete	Operation per Search
2	500.5	-	250.75
5	100.5	-	150.75
10	100.5	-	50.75
20	50.5	-	25.75

FILE 6



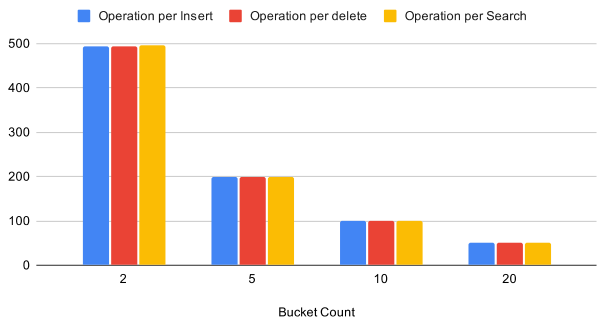
Bucket Count	Operation per Insert	Operation per delete	Operation per Search
2	5.3995	-	5.5
5	2.4635	-	2.5
10	1.482	-	1.5
20	1	-	1

FILE 7



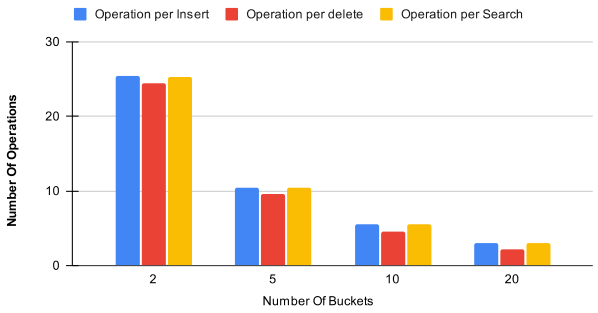
Bucket Count	Operation per Insert	Operation per delete	Operation per Search
2	1.785	-	2.6
5	1	-	1.5
10	1	-	1
20	1	-	1

File 8



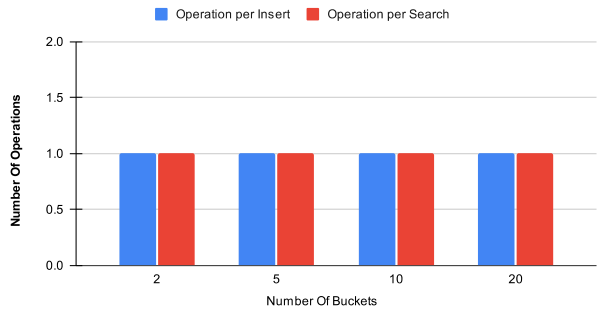
Bucket Count	Operation per Insert	Operation per delete	Operation per Search
2	494.682484	494.284265	495.870965
5	198.793344	197.965614	199.202973
10	100.17947	99.20422	100.3879
20	50.814237	49.846352	50.921609

FILE 9



Bucket Count	Operation per Insert	Operation per delete	Operation per Search
2	25.466787	24.495396	25.261607
5	10.492841	9.548345	10.423241
10	5.491535	4.595483	5.463682
20	2.994462	2.197764	2.976653

FILE 10



Bucket Count	Operation per Insert	Operation per delete	Operation per Search
2	1	-	1
5	1	-	1
10	1	-	1
20	1	-	1