Assignment-3

Q3

NAME : NAGA MANOHAR
ROLL.NO : 2021101128

Observations from the input files are as follows:

**Here,
I have taken
A = 7;
B = 11; for calculating hash value
Hash_val = (A*key+B)%count_bucket;**

**FOR
num_of_buckets = 20
I have seen fewer operations required.**

**As the Number of buckets that store Values increases the
Collisions between the buckets decreases as the
hash_val will spread out from 0 to n-1 for
n = num_of_buckets.
Thus the number of insert/search operations reduce
when the num_of_buckets increase.**

TABLE FOR INPUT FILES:

		NUMBER OF BUCKETS						
INPUT FILE		2		5		10		20
	AVG INSERT	AVG SEARCH	AVG INSERT	AVG SEARCH	AVG INSERT	AVG SEARCH	AVG INSERT	AVG SEARCH
in1.txt	452.583	484	181.3731	193.678	90.9321	97.17	45.7044	48.831
in2.txt	450.3248	491.02	180.3462	197.221	90.4228	98.953	45.4543	49.752
in3.txt	452.1571	485.59	181.0987	194.587	90.8665	97.491	45.7247	48.89
in4.txt	500.5	500.5	200.5	200.5	100.5	100.5	50.5	50.5
in5.txt	500.5	250.75	100.5	150.75	100.5	50.75	50.5	25.75
in6.txt	5.3995	5.5	2.4635	2.5	1.482	1.5	1.000	1.000
in7.txt	1.785	2.6	1.000	1.5	1.000	1.000	1.000	1.000
in8.txt	493.714615	494.903641	197.825476	198.23565	99.211602	99.420576	49.846368	49.954285
in9.txt	25.466787	25.261607	10.492841	10.423241	5.491535	5.463682	2.994462	2.976653
in10.txt	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000