

====Total number of collisions when entering into hash array with data
set 1=====

34

====Total number of collisions when entering into hash array with data
set 2=====

275

Test 1 Array

001	004	008	014	017	024	029	031	041	044
046	048	054	055	060	064	067	068	073	074
077	078	082	083	088	092	103	116	125	127
128	131	132	134	138	142	144	146	147	148
151	175	179	180	181	194	205	206	209	211
232	235	242	265	267	273	279	291	296	311
313	315	318	325	330	335	338	342	343	356
360	370	372	373	376	386	387	390	394	410
417	423	431	442	450	453	456	461	465	467
471	477	481	482	484	489	490	497	498	501

Hash Array of size 151

151	001	453	456	004	-001	-001	-001	008	311
461	313	465	315	014	467	318	017	471	-001
-001	-001	-001	325	024	175	477	-001	179	029
180	031	181	330	335	481	338	482	484	489
342	041	343	194	044	490	046	497	048	498
501	-001	-001	-001	054	055	205	206	209	356
060	211	360	-001	064	-001	-001	067	068	370
372	373	-001	073	074	376	-001	077	078	-001
-001	232	082	083	235	386	387	-001	088	390
-001	242	092	394	-001	-001	-001	-001	-001	-001
-001	-001	-001	103	-001	-001	-001	-001	410	-001
-001	-001	-001	-001	265	417	116	267	-001	-001
-001	423	273	-001	-001	125	-001	127	128	279
431	131	132	-001	134	-001	-001	-001	138	-001
291	442	142	-001	144	296	146	147	148	450
-001									

====Test 1=====

Searching for number 18:

Sequential Search: -1 Number of comparisons: 12

Binary Search: -1 Number of comparisons: 18

Hash Search: -1 Number of comparisons: 4

Searching for number 69:

Sequential Search: -1 Number of comparisons: 38

Binary Search: -1 Number of comparisons: 16

Hash Search: -1 Number of comparisons: 8

Searching for number 201:

Sequential Search: -1 Number of comparisons: 94

Binary Search: -1 Number of comparisons: 17

Hash Search: -1 Number of comparisons: 4

Searching for number 331:

Sequential Search: -1 Number of comparisons: 132
Binary Search: -1 Number of comparisons: 15
Hash Search: -1 Number of comparisons: 46

Searching for number 492:
Sequential Search: -1 Number of comparisons: 196
Binary Search: -1 Number of comparisons: 16
Hash Search: -1 Number of comparisons: 26

Searching for number 17:
Sequential Search: 4 Number of comparisons: 9
Binary Search: 4 Number of comparisons: 17
Hash Search: 17 Number of comparisons: 1

Searching for number 67:
Sequential Search: 16 Number of comparisons: 33
Binary Search: 16 Number of comparisons: 16
Hash Search: 67 Number of comparisons: 1

Searching for number 209:
Sequential Search: 48 Number of comparisons: 97
Binary Search: 48 Number of comparisons: 14
Hash Search: 58 Number of comparisons: 1

Searching for number 372:
Sequential Search: 72 Number of comparisons: 145
Binary Search: 72 Number of comparisons: 12
Hash Search: 70 Number of comparisons: 1

Searching for number 498:
Sequential Search: 98 Number of comparisons: 197
Binary Search: 98 Number of comparisons: 11
Hash Search: 49 Number of comparisons: 8

====Totals & Averages for Test 1====
Total Sequential comps: 953
Avg Sequential comps after 10 tests: 95
Total Binary comps: 152
Avg Binary comps after 10 tests: 15
Total Hash comps: 100
Avg Hash comps after 10 tests: 10

====Test 2====

Searching for number 20:
Sequential Search: -1 Number of comparisons: 18
Binary Search: -1 Number of comparisons: 28
Hash Search: -1 Number of comparisons: 8

Searching for number 832:
Sequential Search: -1 Number of comparisons: 614
Binary Search: -1 Number of comparisons: 25
Hash Search: -1 Number of comparisons: 8

Searching for number 1452:
Sequential Search: -1 Number of comparisons: 1084

Binary Search: -1 Number of comparisons: 25
Hash Search: -1 Number of comparisons: 4

Searching for number 1937:
Sequential Search: -1 Number of comparisons: 1458
Binary Search: -1 Number of comparisons: 24
Hash Search: -1 Number of comparisons: 4

Searching for number 2615:
Sequential Search: -1 Number of comparisons: 1940
Binary Search: -1 Number of comparisons: 25
Hash Search: -1 Number of comparisons: 4

Searching for number 87:
Sequential Search: 28 Number of comparisons: 57
Binary Search: 28 Number of comparisons: 22
Hash Search: 87 Number of comparisons: 1

Searching for number 851:
Sequential Search: 308 Number of comparisons: 617
Binary Search: 308 Number of comparisons: 23
Hash Search: 851 Number of comparisons: 1

Searching for number 1350:
Sequential Search: 496 Number of comparisons: 993
Binary Search: 496 Number of comparisons: 21
Hash Search: 1350 Number of comparisons: 1

Searching for number 1990:
Sequential Search: 747 Number of comparisons: 1495
Binary Search: 747 Number of comparisons: 18
Hash Search: 491 Number of comparisons: 1

Searching for number 2631:
Sequential Search: 973 Number of comparisons: 1947
Binary Search: 973 Number of comparisons: 22
Hash Search: 1133 Number of comparisons: 2

====Totals & Averages for Test 2====
Total Sequential comps: 11176
Avg Sequential comps after 10 tests: 1117
Total Binary comps: 385
Avg Binary comps after 10 tests: 38
Total Hash comps: 134
Avg Hash comps after 10 tests: 13