Utsav Pandey, Antonio Claros Molina, Scott Krieder Output

Global Insertion LinkedList Size: 10000000 Global Retrieval LinkedList Size: 1000000

Setting Up LinkedLists.....done!

Testing Performance now...

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Hash Type: modulo

Modulo: 101

Map Type: ChainedHashMap No. of insertions: 100 No. of retrievals: 500000

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100 values inserted in 1 ms.

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490 values retrieved in 68 ms.

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Hash Type: modulo

Modulo: 1009

Map Type: ChainedHashMap No. of insertions: 100 No. of retrievals: 500000

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100 values inserted in 0 ms.

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490 values retrieved in 23 ms.

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Hash Type: modulo
Modulo: 10007

Map Type: ChainedHashMap No. of insertions: 100 No. of retrievals: 500000

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100 values inserted in 0 ms.

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490 values retrieved in 21 ms.

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Hash Type: modulo
Modulo: 100003

Map Type: ChainedHashMap No. of insertions: 100 No. of retrievals: 500000

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100 values inserted in 0 ms.

490 values retrieved in 33 ms. \*\*\*\*\*\*\*\* Hash Type: none Map Type: HashMap No. of insertions: 100 No. of retrievals: 500000 100 values inserted in 0 ms. 490 values retrieved in 32 ms. \*\*\*\*\*\*\* Hash Type: none Map Type: TreeMap No. of insertions: 100 No. of retrievals: 500000 100 values inserted in 0 ms. -----490 values retrieved in 62 ms. \*\*\*\*\*\*\*\*\* Hash Type: none Map Type: LinkedHashMap No. of insertions: 100 No. of retrievals: 500000 100 values inserted in 0 ms. -----490 values retrieved in 39 ms. Hash Type: lastTwo Map Type: ChainedHashMap No. of insertions: 100 No. of retrievals: 500000 \_\_\_\_\_\_ 100 values inserted in 5 ms. -----490 values retrieved in 11636 ms. \*\*\*\*\*\*\*

Hash Type: digitSum
Map Type: ChainedHashMap
No. of insertions: 100

No. of retrievals: 500000 \_\_\_\_\_\_ 100 values inserted in 0 ms. 490 values retrieved in 1756 ms. \*\*\*\*\*\*\* Hash Type: modulo Modulo: 101 Map Type: ChainedHashMap No. of insertions: 1000 No. of retrievals: 500000 \_\_\_\_\_ 1000 values inserted in 1 ms. 5069 values retrieved in 88 ms. Hash Type: modulo Modulo: 1009 Map Type: ChainedHashMap No. of insertions: 1000 No. of retrievals: 500000 1000 values inserted in 0 ms. \_\_\_\_\_\_ 5069 values retrieved in 44 ms. \*\*\*\*\*\*\* Hash Type: modulo Modulo: 10007 Map Type: ChainedHashMap No. of insertions: 1000 No. of retrievals: 500000 1000 values inserted in 0 ms. \_\_\_\_\_ 5069 values retrieved in 26 ms. \*\*\*\*\*\*\* Hash Type: modulo Modulo: 100003 Map Type: ChainedHashMap No. of insertions: 1000 No. of retrievals: 500000 1000 values inserted in 1 ms. -----5069 values retrieved in 43 ms.

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\*\*\*\*\*\*\*\* Hash Type: none Map Type: HashMap No. of insertions: 1000 No. of retrievals: 500000 1000 values inserted in 1689 ms. 5069 values retrieved in 32 ms. \*\*\*\*\*\*\*\* Hash Type: none Map Type: TreeMap No. of insertions: 1000 No. of retrievals: 500000 1000 values inserted in 3 ms. \_\_\_\_\_\_ 5069 values retrieved in 85 ms. Hash Type: none Map Type: LinkedHashMap No. of insertions: 1000 No. of retrievals: 500000 1000 values inserted in 2 ms. 5069 values retrieved in 41 ms. \_\_\_\_\_\_ \*\*\*\*\*\*\*\* Hash Type: lastTwo Map Type: ChainedHashMap No. of insertions: 1000 No. of retrievals: 500000 1000 values inserted in 2 ms. \_\_\_\_\_\_ 5069 values retrieved in 10754 ms. \*\*\*\*\*\*\*\*\* Hash Type: lastThree Map Type: ChainedHashMap No. of insertions: 1000

No. of retrievals: 500000

1000 values inserted in 2 ms. 5069 values retrieved in 10806 ms. \*\*\*\*\*\*\* Hash Type: digitSum Map Type: ChainedHashMap No. of insertions: 1000 No. of retrievals: 500000 1000 values inserted in 1 ms. 5069 values retrieved in 235 ms. \_\_\_\_\_\_ \*\*\*\*\*\*\*\* Hash Type: modulo Modulo: 101 Map Type: ChainedHashMap No. of insertions: 10000 No. of retrievals: 500000 10000 values inserted in 45 ms. 47763 values retrieved in 2283 ms. \*\*\*\*\*\*\*\*\* Hash Type: modulo Modulo: 1009 Map Type: ChainedHashMap No. of insertions: 10000 No. of retrievals: 500000 10000 values inserted in 1 ms. \_\_\_\_\_\_ 47763 values retrieved in 189 ms. Hash Type: modulo Modulo: 10007 Map Type: ChainedHashMap No. of insertions: 10000 No. of retrievals: 500000 10000 values inserted in 1 ms. \_\_\_\_\_\_ 47763 values retrieved in 90 ms.

\*\*\*\*\*\*\*\*\* Hash Type: modulo Modulo: 100003 Map Type: ChainedHashMap No. of insertions: 10000 No. of retrievals: 500000 10000 values inserted in 2 ms. 47763 values retrieved in 1752 ms. \*\*\*\*\*\*\*\*\* Hash Type: none Map Type: HashMap No. of insertions: 10000 No. of retrievals: 500000 \_\_\_\_\_\_ 10000 values inserted in 12 ms. 47763 values retrieved in 46 ms. \_\_\_\_\_\_ \*\*\*\*\*\*\*\* Hash Type: none Map Type: TreeMap No. of insertions: 10000 No. of retrievals: 500000 10000 values inserted in 16 ms. \_\_\_\_\_ 47763 values retrieved in 156 ms. \*\*\*\*\*\*\*\*\* Hash Type: none Map Type: LinkedHashMap No. of insertions: 10000 No. of retrievals: 500000 10000 values inserted in 7 ms. 47763 values retrieved in 55 ms. \_\_\_\_\_\_ \*\*\*\*\*\*\*\*\* Hash Type: lastTwo Map Type: ChainedHashMap No. of insertions: 10000 No. of retrievals: 500000 10000 values inserted in 31 ms.

47763 values retrieved in 13463 ms. \*\*\*\*\*\*\* Hash Type: lastThree Map Type: ChainedHashMap No. of insertions: 10000 No. of retrievals: 500000 \_\_\_\_\_ 10000 values inserted in 17~ms.\_\_\_\_\_\_ 47763 values retrieved in 12817 ms. \*\*\*\*\*\*\*\* Hash Type: digitSum Map Type: ChainedHashMap No. of insertions: 10000 No. of retrievals: 500000 -----10000 values inserted in 33 ms. 47763 values retrieved in 2867 ms. \*\*\*\*\*\*\*\*\* Hash Type: modulo Modulo: 101 Map Type: ChainedHashMap No. of insertions: 100000 No. of retrievals: 500000 100000 values inserted in 6130 ms. \_\_\_\_\_ 316563 values retrieved in 33401 ms. Hash Type: modulo Modulo: 1009 Map Type: ChainedHashMap No. of insertions: 100000 No. of retrievals: 500000 -----100000 values inserted in 489 ms. 316563 values retrieved in 5048 ms. \*\*\*\*\*\*\*\*

Hash Type: modulo
Modulo: 10007

Map Type: ChainedHashMap No. of insertions: 100000 No. of retrievals: 500000 100000 values inserted in 74 ms. -----316563 values retrieved in 2335 ms. -----\*\*\*\*\*\*\*\* Hash Type: modulo Modulo: 100003 Map Type: ChainedHashMap No. of insertions: 100000 No. of retrievals: 500000 \_\_\_\_\_ 100000 values inserted in 25 ms. \_\_\_\_\_\_ 316563 values retrieved in 165 ms. \*\*\*\*\*\*\*\*\* Hash Type: none Map Type: HashMap No. of insertions: 100000 No. of retrievals: 500000 \_\_\_\_\_ 100000 values inserted in 24 ms. \_\_\_\_\_ 316563 values retrieved in 149 ms. \_\_\_\_\_ \*\*\*\*\*\*\* Hash Type: none Map Type: TreeMap No. of insertions: 100000 No. of retrievals: 500000 100000 values inserted in 81 ms. 316563 values retrieved in 546 ms. \*\*\*\*\*\*\*\* Hash Type: none Map Type: LinkedHashMap No. of insertions: 100000 No. of retrievals: 500000 \_\_\_\_\_\_ 100000 values inserted in 25 ms.

316563 values retrieved in 156 ms.

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Hash Type: lastTwo

Map Type: ChainedHashMap No. of insertions: 100000 No. of retrievals: 500000

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100000 values inserted in 9187 ms.

316563 values retrieved in 66310  $\ensuremath{\mathsf{ms}}\xspace.$ 

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Hash Type: lastThree
Map Type: ChainedHashMap
No. of insertions: 100000
No. of retrievals: 500000

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100000 values inserted in 4574 ms.

316563 values retrieved in 38041 ms.

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Hash Type: digitSum
Map Type: ChainedHashMap
No. of insertions: 100000
No. of retrievals: 500000

100000 values inserted in 18273 ms.

316563 values retrieved in 130029 ms.

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Longest measurement time for insertion: 18273 Shortest measurement time insertion: 0

Longest measurement time for retrieval: 130029 Shortest measurement time retrieval: 21