**Hits as a time predictor (Output)**

------------------- Without Instrumentation ------------------

2023-03-12 23:35:50 INFO Benchmark\_Timer - Begin run: Sort array of 10000 elements with 1 runs

Mergesort Time for array of 10000 elements is: 226.0

Compares = 0

Swaps = 0

Hits = 0

2023-03-12 23:35:51 INFO Benchmark\_Timer - Begin run: Sort array of 10000 elements with 1 runs

Quicksort Time for array of 10000 elements is: 88.0

Compares = 0

Swaps = 0

Hits = 0

2023-03-12 23:35:51 INFO Benchmark\_Timer - Begin run: Sort array of 10000 elements with 1 runs

Heapsort Time for array of 10000 elements is: 2.0

Compares = 0

Swaps = 0

Hits = 0

2023-03-12 23:35:52 INFO Benchmark\_Timer - Begin run: Sort array of 20000 elements with 1 runs

Mergesort Time for array of 20000 elements is: 992.0

Compares = 0

Swaps = 0

Hits = 0

2023-03-12 23:35:56 INFO Benchmark\_Timer - Begin run: Sort array of 20000 elements with 1 runs

Quicksort Time for array of 20000 elements is: 376.0

Compares = 0

Swaps = 0

Hits = 0

2023-03-12 23:35:58 INFO Benchmark\_Timer - Begin run: Sort array of 20000 elements with 1 runs

Heapsort Time for array of 20000 elements is: 4.0

Compares = 0

Swaps = 0

Hits = 0

2023-03-12 23:36:01 INFO Benchmark\_Timer - Begin run: Sort array of 40000 elements with 1 runs

Mergesort Time for array of 40000 elements is: 3729.0

Compares = 0

Swaps = 0

Hits = 0

2023-03-12 23:36:18 INFO Benchmark\_Timer - Begin run: Sort array of 40000 elements with 1 runs

Quicksort Time for array of 40000 elements is: 1555.0

Compares = 0

Swaps = 0

Hits = 0

2023-03-12 23:36:25 INFO Benchmark\_Timer - Begin run: Sort array of 40000 elements with 1 runs

Heapsort Time for array of 40000 elements is: 7.0

Compares = 0

Swaps = 0

Hits = 0

2023-03-12 23:36:42 INFO Benchmark\_Timer - Begin run: Sort array of 80000 elements with 1 runs

Mergesort Time for array of 80000 elements is: 13693.0

Compares = 0

Swaps = 0

Hits = 0

2023-03-12 23:37:48 INFO Benchmark\_Timer - Begin run: Sort array of 80000 elements with 1 runs

Quicksort Time for array of 80000 elements is: 6454.0

Compares = 0

Swaps = 0

Hits = 0

2023-03-12 23:38:14 INFO Benchmark\_Timer - Begin run: Sort array of 80000 elements with 1 runs

Heapsort Time for array of 80000 elements is: 17.0

Compares = 0

Swaps = 0

Hits = 0

2023-03-12 23:39:57 INFO Benchmark\_Timer - Begin run: Sort array of 160000 elements with 1 runs

Mergesort Time for array of 160000 elements is: 103762.0

Compares = 0

Swaps = 0

Hits = 0

2023-03-12 23:47:16 INFO Benchmark\_Timer - Begin run: Sort array of 160000 elements with 1 runs

Quicksort Time for array of 160000 elements is: 28211.0

Compares = 0

Swaps = 0

Hits = 0

2023-03-12 23:49:08 INFO Benchmark\_Timer - Begin run: Sort array of 160000 elements with 1 runs

Heapsort Time for array of 160000 elements is: 39.0

Compares = 0

Swaps = 0

Hits = 0

-------------------- With Instrumentation --------------------------

/Users/vipulrajderkar/Library/Java/JavaVirtualMachines/openjdk-

2023-03-12 23:55:25 INFO Benchmark\_Timer - Begin run: Sort array of 10000 elements with 1 runs

Mergesort Time for array of 10000 elements is: 256.0

Compares = 75183576

Swaps = 25123981

Hits = 101030388

2023-03-12 23:55:27 INFO Benchmark\_Timer - Begin run: Sort array of 10000 elements with 1 runs

Quicksort Time for array of 10000 elements is: 324.0

Compares = 59137352

Swaps = 73122

Hits = 456168

2023-03-12 23:55:28 INFO Benchmark\_Timer - Begin run: Sort array of 10000 elements with 1 runs

Heapsort Time for array of 10000 elements is: 197.0

Compares = 235354

Swaps = 124125

Hits = 967208

2023-03-12 23:55:30 INFO Benchmark\_Timer - Begin run: Sort array of 20000 elements with 1 runs

Mergesort Time for array of 20000 elements is: 933.0

Compares = 299709369

Swaps = 99580158

Hits = 399469560

2023-03-12 23:55:35 INFO Benchmark\_Timer - Begin run: Sort array of 20000 elements with 1 runs

Quicksort Time for array of 20000 elements is: 1130.0

Compares = 237819113

Swaps = 158748

Hits = 990319

2023-03-12 23:55:41 INFO Benchmark\_Timer - Begin run: Sort array of 20000 elements with 1 runs

Heapsort Time for array of 20000 elements is: 870.0

Compares = 510633

Swaps = 268283

Hits = 2094398

2023-03-12 23:55:49 INFO Benchmark\_Timer - Begin run: Sort array of 40000 elements with 1 runs

Mergesort Time for array of 40000 elements is: 4189.0

Compares = 1200602204

Swaps = 400323781

Hits = 1603752980

2023-03-12 23:56:11 INFO Benchmark\_Timer - Begin run: Sort array of 40000 elements with 1 runs

Quicksort Time for array of 40000 elements is: 3645.0

Compares = 947599391

Swaps = 317088

Hits = 2039826

2023-03-12 23:56:29 INFO Benchmark\_Timer - Begin run: Sort array of 40000 elements with 1 runs

Heapsort Time for array of 40000 elements is: 3918.0

Compares = 1101510

Swaps = 576766

Hits = 4510084

2023-03-12 23:57:02 INFO Benchmark\_Timer - Begin run: Sort array of 80000 elements with 1 runs

Mergesort Time for array of 80000 elements is: 15393.0

Compares = 508527950

Swaps = 1602898394

Hits = 2121861992

2023-03-12 23:58:24 INFO Benchmark\_Timer - Begin run: Sort array of 80000 elements with 1 runs

Quicksort Time for array of 80000 elements is: 13213.0

Compares = -508867423

Swaps = 710628

Hits = 4642644

2023-03-12 23:59:36 INFO Benchmark\_Timer - Begin run: Sort array of 80000 elements with 1 runs

Heapsort Time for array of 80000 elements is: 14543.0

Compares = 2362997

Swaps = 1233804

Hits = 9661210

2023-03-13 00:02:31 INFO Benchmark\_Timer - Begin run: Sort array of 160000 elements with 1 runs

Mergesort Time for array of 160000 elements is: 115816.0

Compares = 2018903858

Swaps = 2102532030

Hits = -168695048

2023-03-13 00:11:03 INFO Benchmark\_Timer - Begin run: Sort array of 160000 elements with 1 runs

Quicksort Time for array of 160000 elements is: 56646.0

Compares = -2015510264

Swaps = 1602866

Hits = 10143923

2023-03-13 00:15:41 INFO Benchmark\_Timer - Begin run: Sort array of 160000 elements with 1 runs

Heapsort Time for array of 160000 elements is: 60764.0

Compares = 5046098

Swaps = 2627456

Hits = 20602020

Process finished with exit code 0