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1 /Users/Aashay/Library/Java/JavaVirtualMachines/
  openjdk-19.0.2/Contents/Home/bin/java -javaagent:/
  Applications/IntelliJ IDEA CE.app/Contents/lib/
  idea_rt.jar=61781:/Applications/IntelliJ IDEA CE.
  app/Contents/bin -Dfile.encoding=UTF-8 -Dsun.stdout
  .encoding=UTF-8 -Dsun.stderr.encoding=UTF-8 -
  classpath /Users/Aashay/Desktop/Spring2023/PSA/
  INF06205/target/classes:/Users/Aashay/.m2/
  repository/com/phasmidsoftware/args_2.13/1.0.3/
  args_2.13-1.0.3.jar:/Users/Aashay/.m2/repository/
  org/scala-lang/scala-library/2.13.7/scala-library-2
  .13.7.jar:/Users/Aashay/.m2/repository/org/scala-
  lang/modules/scala-parser-combinators_2.13/1.1.2/
  scala-parser-combinators_2.13-1.1.2.jar:/Users/
  Aashay/.m2/repository/org/apache/logging/log4j/
  log4j-api/2.19.0/log4j-api-2.19.0.jar:/Users/Aashay
  /.m2/repository/log4j/log4j/1.2.17/log4j-1.2.17.jar
  :/Users/Aashay/.m2/repository/com/google/guava/
  guava/31.1-jre/guava-31.1-jre.jar:/Users/Aashay/.m2
  /repository/com/google/guava/failureaccess/1.0.1/
  failureaccess-1.0.1.jar:/Users/Aashay/.m2/
  repository/com/google/guava/listenablefuture/9999.0
  -empty-to-avoid-conflict-with-guava/
  listenablefuture-9999.0-empty-to-avoid-conflict-
  with-guava.jar:/Users/Aashay/.m2/repository/com/
  google/code/findbugs/jsr305/3.0.2/jsr305-3.0.2.jar
  :/Users/Aashay/.m2/repository/org/checkerframework/
  checker-qual/3.12.0/checker-qual-3.12.0.jar:/Users/
  Aashay/.m2/repository/com/google/errorprone/
  error_prone_annotations/2.11.0/
  error_prone_annotations-2.11.0.jar:/Users/Aashay/.
  m2/repository/com/google/j2objc/j2objc-annotations/
  1.3/j2objc-annotations-1.3.jar:/Users/Aashay/.m2/
  repository/org/ini4j/ini4j/0.5.4/ini4j-0.5.4.jar
  edu.neu.coe.info6205.sort.linearithmic.
  QuickSort_DualPivot
2 2023-03-12 00:20:43 INFO Benchmark_Timer - Begin
  run: Sorting with with 20 runs
3 2023-03-12 00:20:43 INFO Benchmark_Timer - Begin
  run: Sorting with with 20 runs
4 2023-03-12 00:20:43 INFO Benchmark_Timer - Begin

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4 run: Sorting with with 20 runs
5 When array size is: 10000
6 Compares: 409921315
7 Swaps: 271636
8 hits: 411328945
9 Time: 26.675324999999997
10
11
12
13 2023-03-12 00:20:44 INFO Benchmark_Timer - Begin
   run: Sorting with with 20 runs
14 2023-03-12 00:20:44 INFO Benchmark_Timer - Begin
   run: Sorting with with 20 runs
15 2023-03-12 00:20:45 INFO Benchmark_Timer - Begin
   run: Sorting with with 20 runs
16 When array size is: 15000
17 Compares: 842444827
18 Swaps: 417595
19 hits: 844596877
20 Time: 45.1357479
21
22
23
24 2023-03-12 00:20:45 INFO Benchmark_Timer - Begin
   run: Sorting with with 20 runs
25 2023-03-12 00:20:45 INFO Benchmark_Timer - Begin
   run: Sorting with with 20 runs
26 2023-03-12 00:20:46 INFO Benchmark_Timer - Begin
   run: Sorting with with 20 runs
27 When array size is: 20000
28 Compares: 1852048923
29 Swaps: 562879
30 hits: 1854942735
31 Time: 98.681852099999999
32
33
34
35 2023-03-12 00:20:48 INFO Benchmark_Timer - Begin
   run: Sorting with with 20 runs
36 2023-03-12 00:20:48 INFO Benchmark_Timer - Begin
   run: Sorting with with 20 runs
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37 2023-03-12 00:20:51 INFO Benchmark_Timer - Begin
    run: Sorting with with 20 runs
38 When array size is: 25000
39 Compares: -1277474564
40 Swaps: 696447
41 hits: -1273886447
42 Time: 161.3748125
43
44
45
46 2023-03-12 00:20:52 INFO Benchmark_Timer - Begin
    run: Sorting with with 20 runs
47 2023-03-12 00:20:58 INFO Benchmark_Timer - Begin
    run: Sorting with with 20 runs
48 2023-03-12 00:20:58 INFO Benchmark_Timer - Begin
    run: Sorting with with 20 runs
49 When array size is: 30000
50 Compares: 956688942
51 Swaps: 857453
52 hits: 961082023
53 Time: 282.47845205
54
55
56
57 2023-03-12 00:20:59 INFO Benchmark_Timer - Begin
    run: Sorting with with 20 runs
58 2023-03-12 00:21:09 INFO Benchmark_Timer - Begin
    run: Sorting with with 20 runs
59 2023-03-12 00:21:09 INFO Benchmark_Timer - Begin
    run: Sorting with with 20 runs
60 When array size is: 35000
61 Compares: -672126347
62 Swaps: 1013217
63 hits: -666949802
64 Time: 423.35742705
65
66
67
68 2023-03-12 00:21:10 INFO Benchmark_Timer - Begin
    run: Sorting with with 20 runs
69 2023-03-12 00:21:16 INFO Benchmark_Timer - Begin
```

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69 run: Sorting with with 20 runs
70 2023-03-12 00:21:17 INFO Benchmark_Timer - Begin
    run: Sorting with with 20 runs
71 When array size is: 40000
72 Compares: -1995047760
73 Swaps: 1151712
74 hits: -1989156774
75 Time: 359.44196875
76
77
78
79 2023-03-12 00:21:20 INFO Benchmark_Timer - Begin
    run: Sorting with with 20 runs
80 2023-03-12 00:21:21 INFO Benchmark_Timer - Begin
    run: Sorting with with 20 runs
81 2023-03-12 00:21:29 INFO Benchmark_Timer - Begin
    run: Sorting with with 20 runs
82 When array size is: 45000
83 Compares: -3527655
84 Swaps: 1305503
85 hits: 3139124
86 Time: 462.12242084999997
87
88
89
90 2023-03-12 00:21:33 INFO Benchmark_Timer - Begin
    run: Sorting with with 20 runs
91 2023-03-12 00:21:35 INFO Benchmark_Timer - Begin
    run: Sorting with with 20 runs
92 2023-03-12 00:21:46 INFO Benchmark_Timer - Begin
    run: Sorting with with 20 runs
93 When array size is: 50000
94 Compares: -1978326554
95 Swaps: 1412234
96 hits: -1971071744
97 Time: 589.7147562
98
99
100
101 2023-03-12 00:21:49 INFO Benchmark_Timer - Begin
    run: Sorting with with 20 runs
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102 2023-03-12 00:21:55 INFO Benchmark_Timer - Begin
    run: Sorting with with 20 runs
103 2023-03-12 00:22:01 INFO Benchmark_Timer - Begin
    run: Sorting with with 20 runs
104 When array size is: 55000
105 Compares: -1925372654
106 Swaps: 1596930
107 hits: -1917218825
108 Time: 588.2921125
109
110
111
112
113 Process finished with exit code 0
114
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