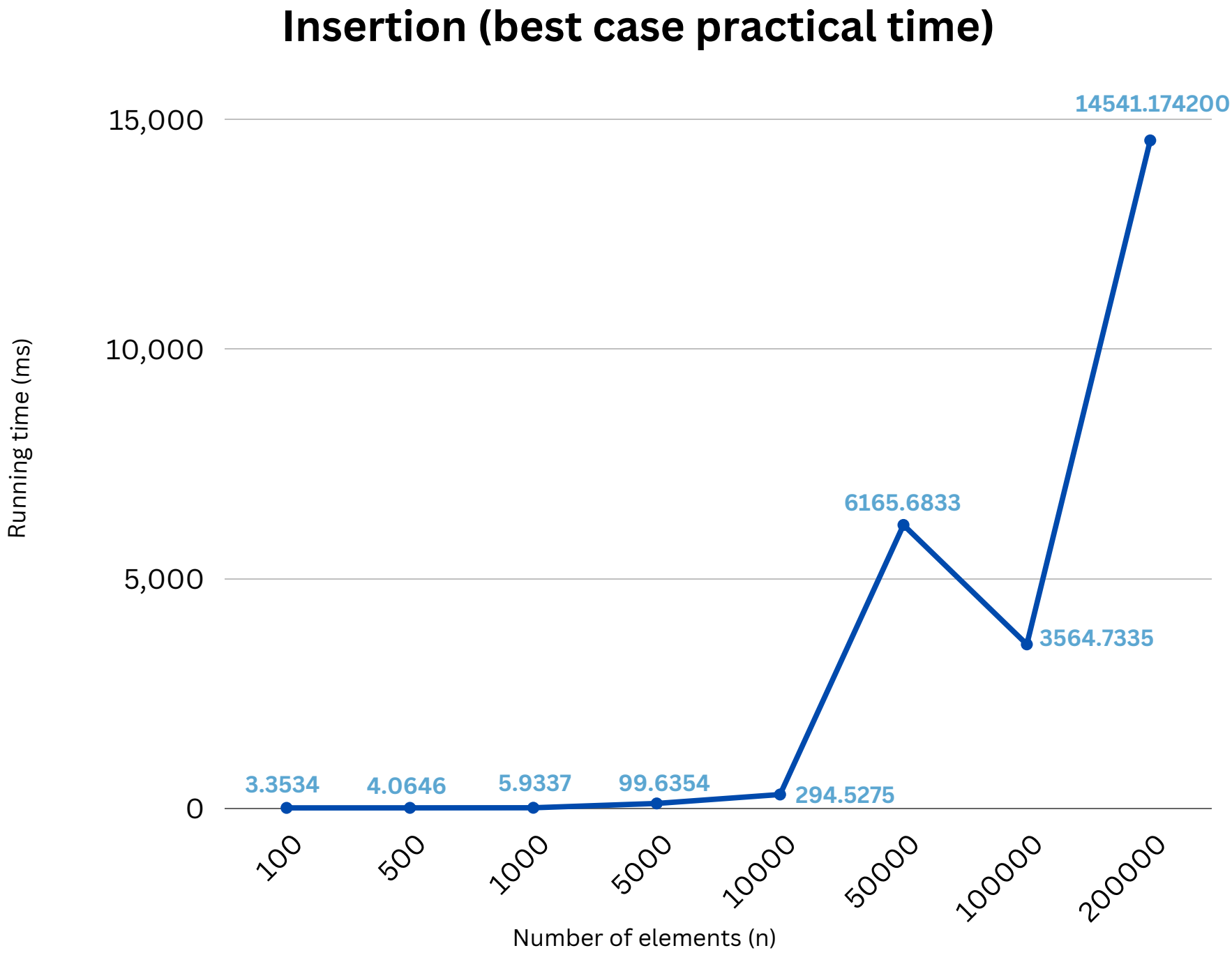
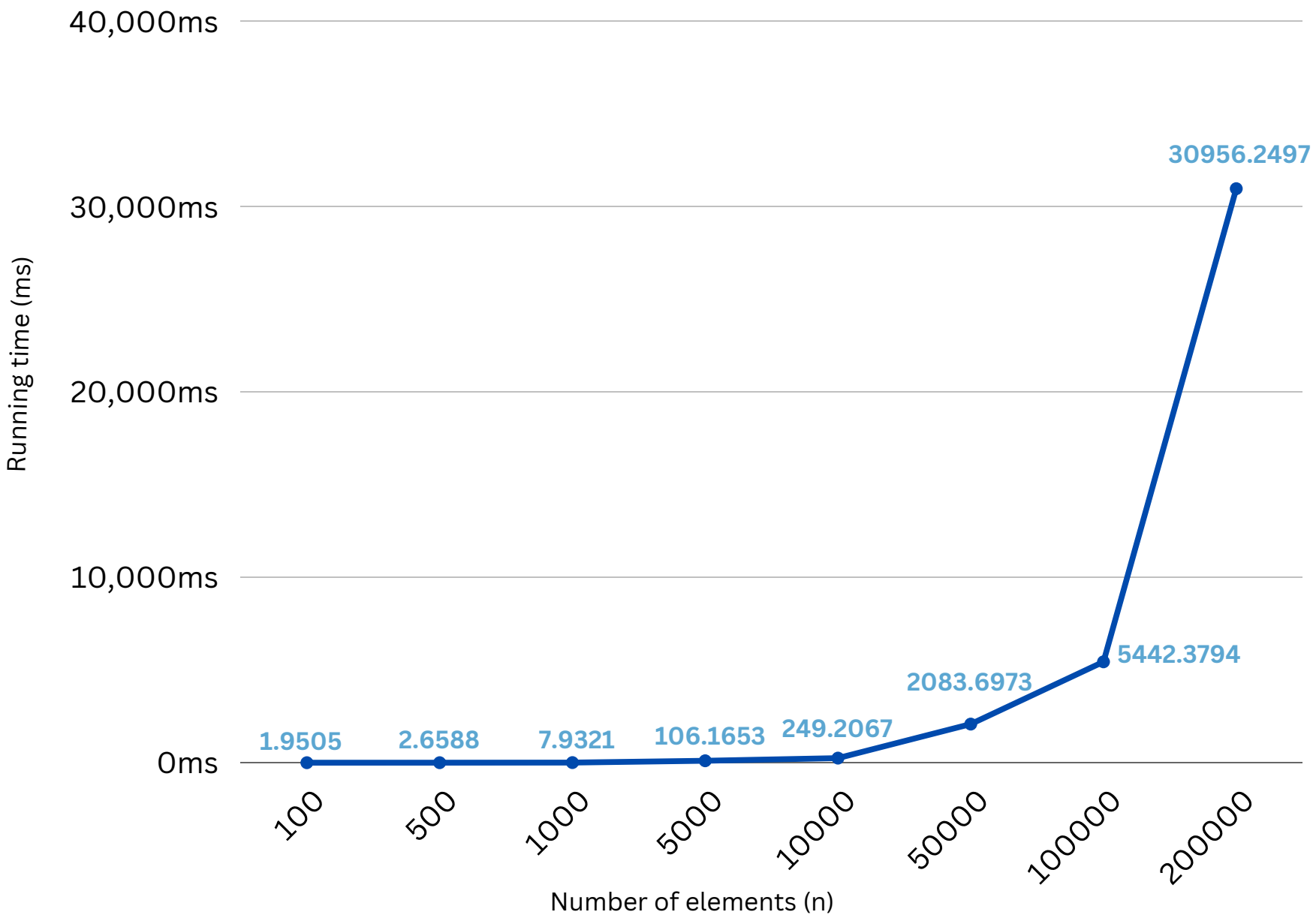
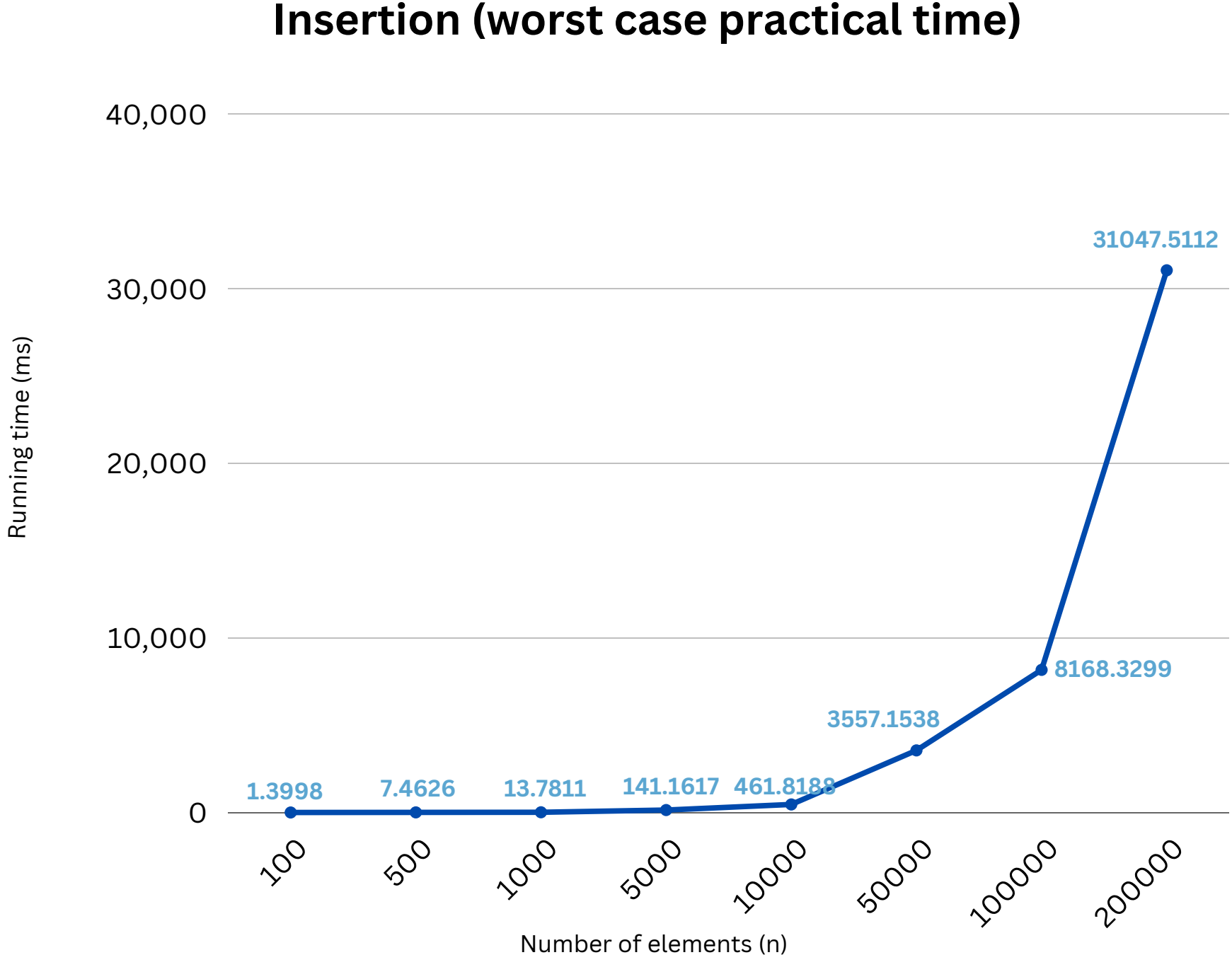
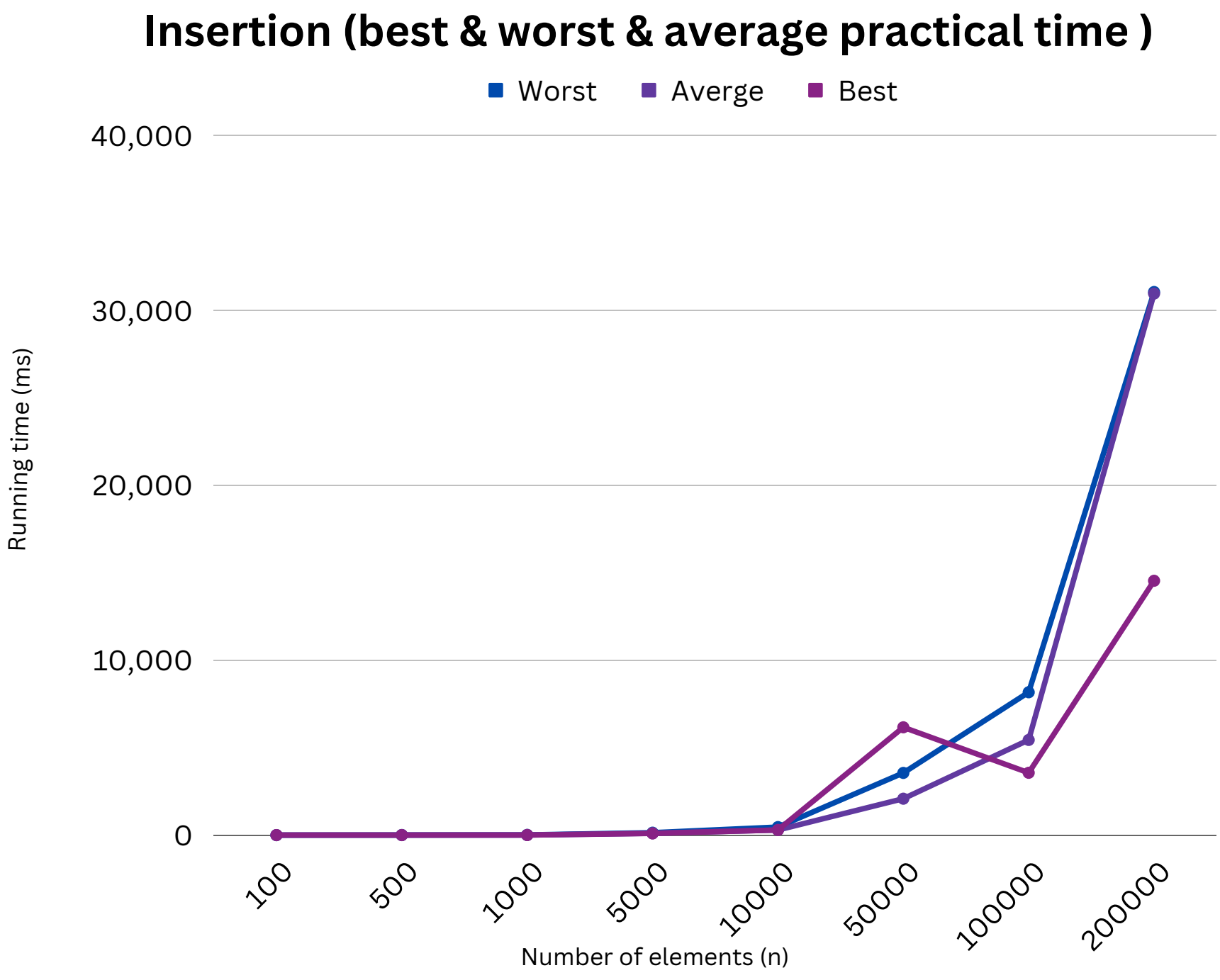
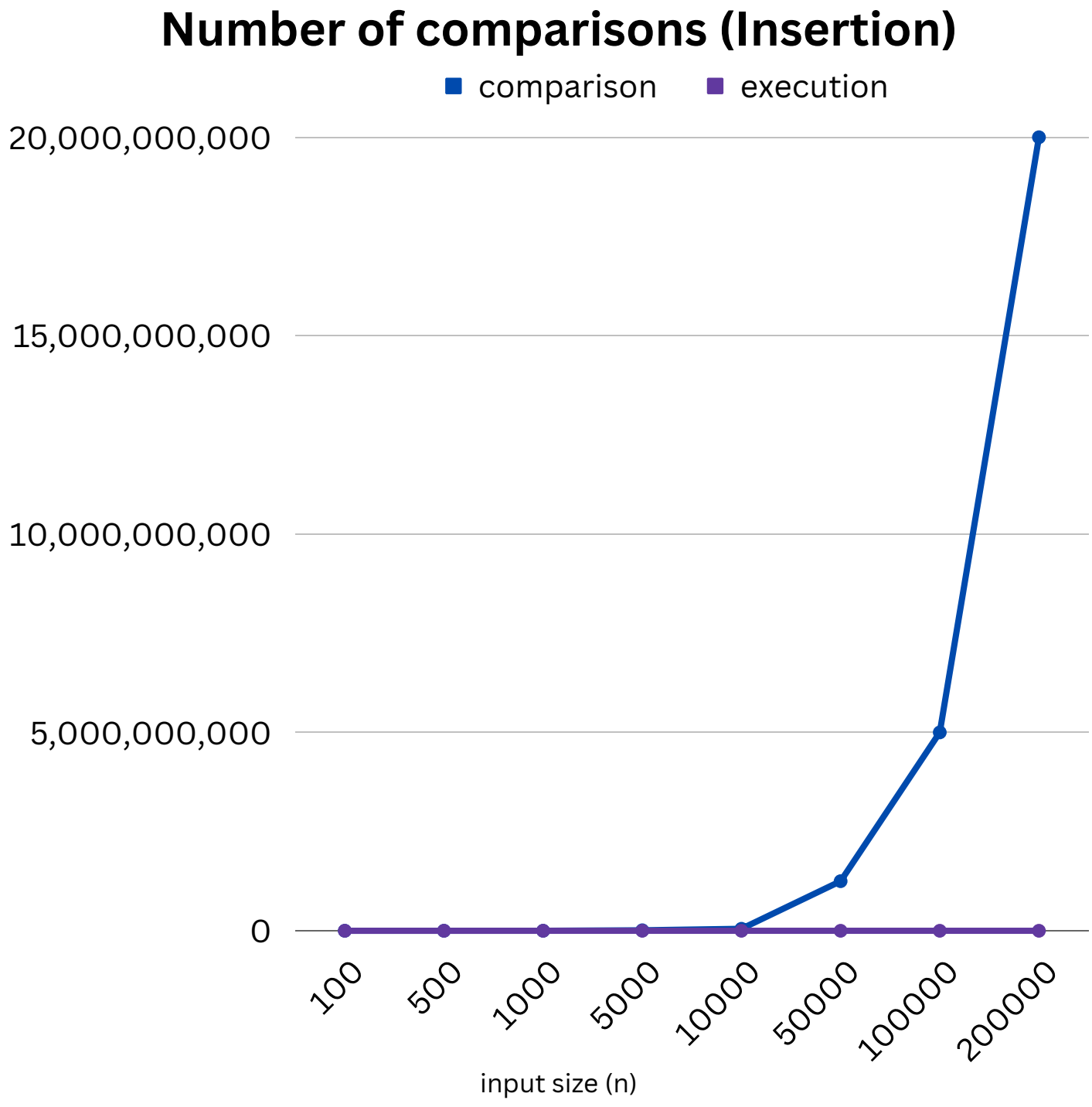

Insertion (best case practical time)
15,000
10,000
5,000
0
Running time (ms)
14541.174200
6165.6833
3564.7335
3.3534
4.0646
5.9337
99.6354
294.5275
100
500
1000
5000
10000
50000
100000
200000
Number of elements (n)

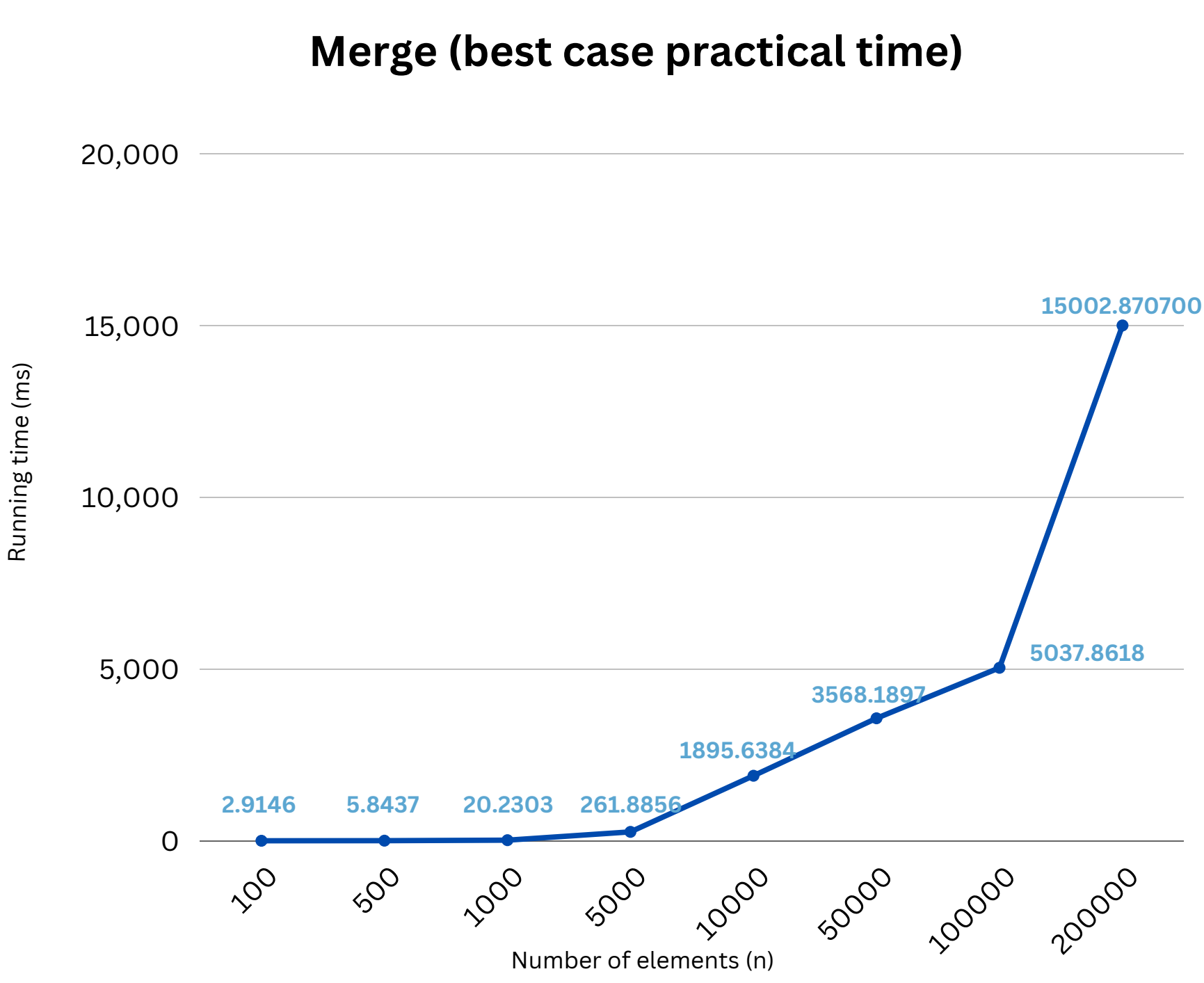
Insertion (average case practical time)

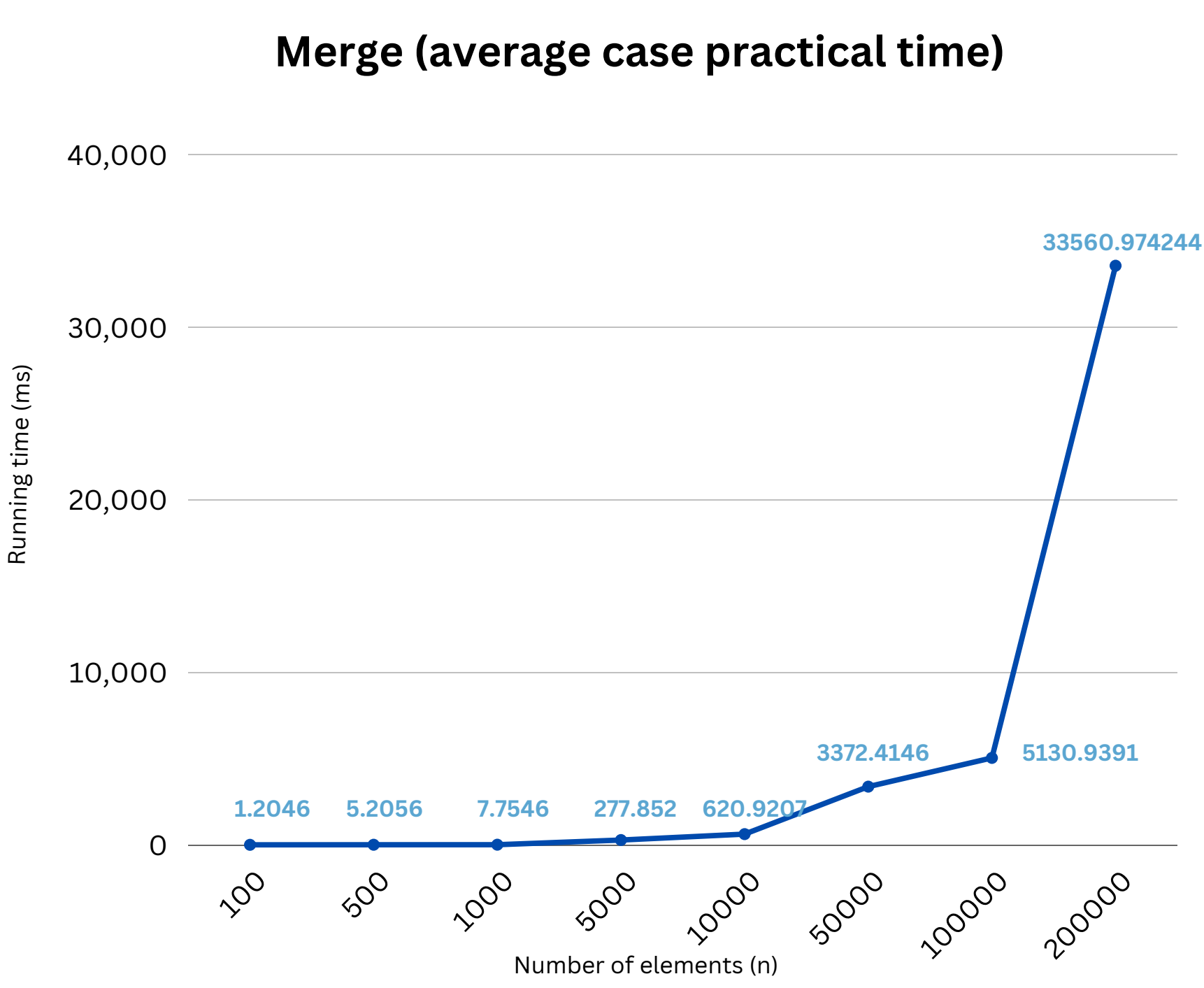


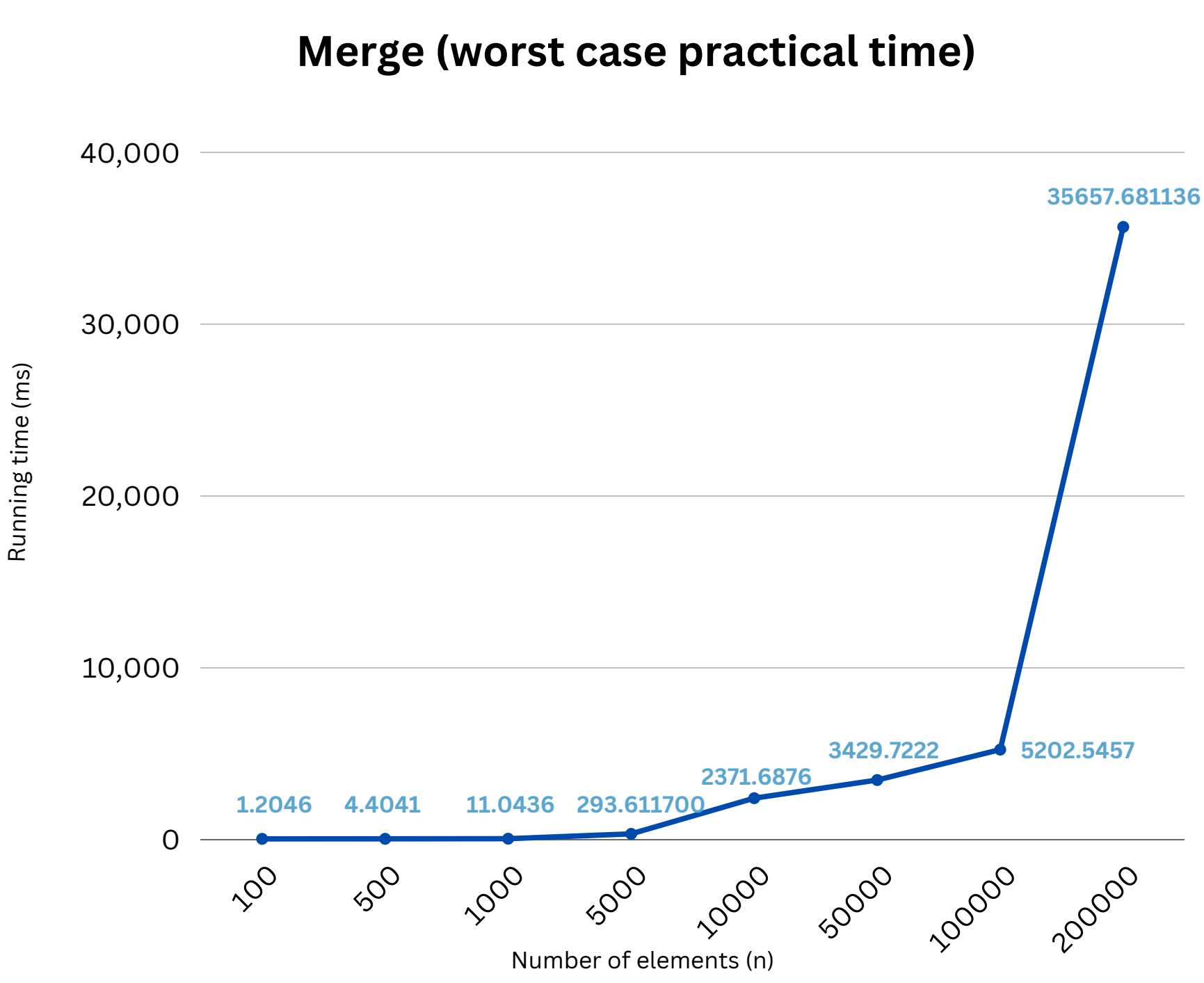

Insertion (worst case practical time)
40,000
30,000
20,000
10,000
0
Running time (ms)
1.3998
7.4626
13.7811
141.1617
461.8188
3557.1538
8168.3299
31047.5112
100
500
1000
5000
10000
50000
100000
200000
Number of elements (n)

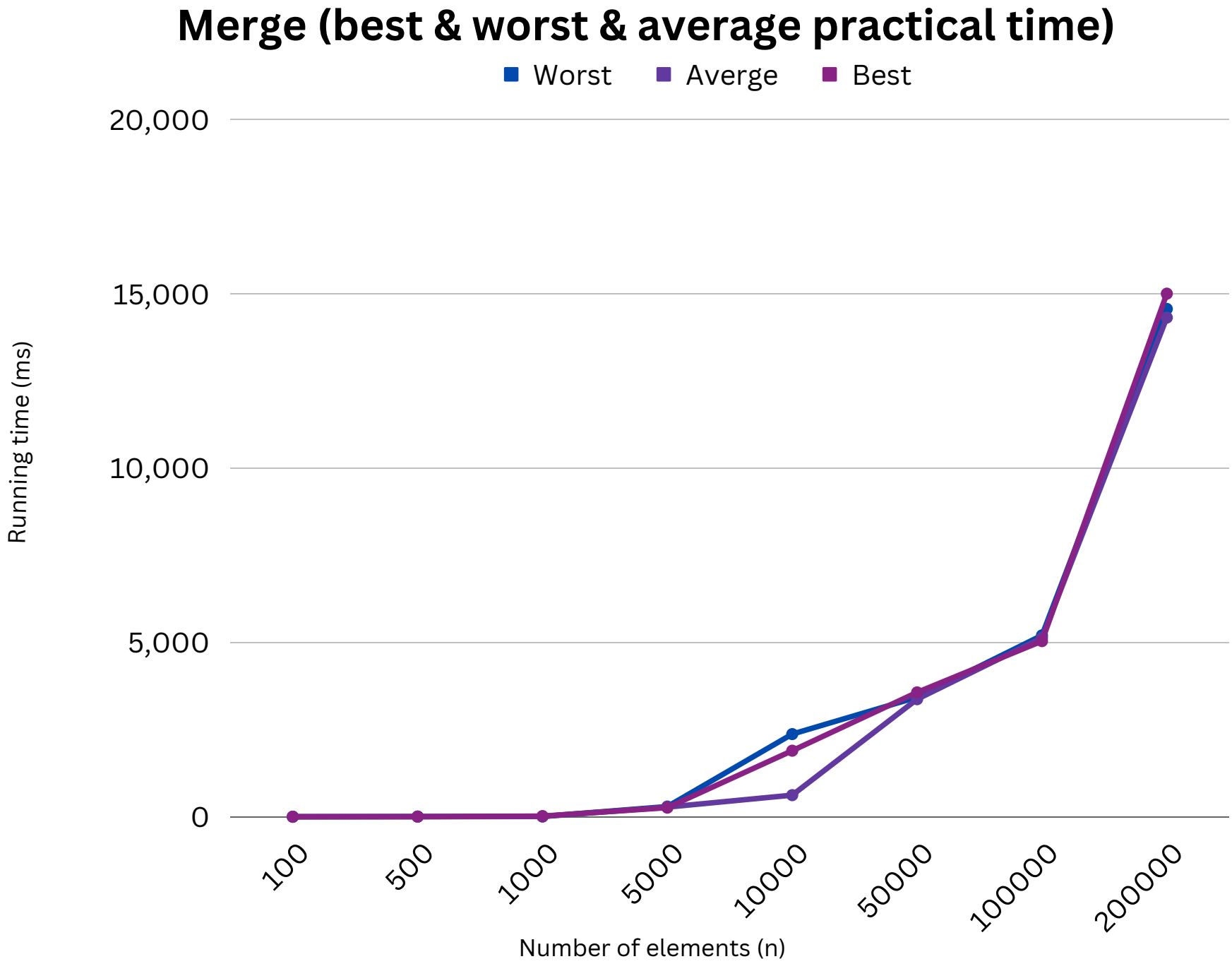

Insertion (best & worst & average practical time)
Worst
Averge
Best
40,000
30,000
20,000
10,000
0
Running time (ms)
100
500
1000
5000
10000
50000
100000
200000
Number of elements (n)

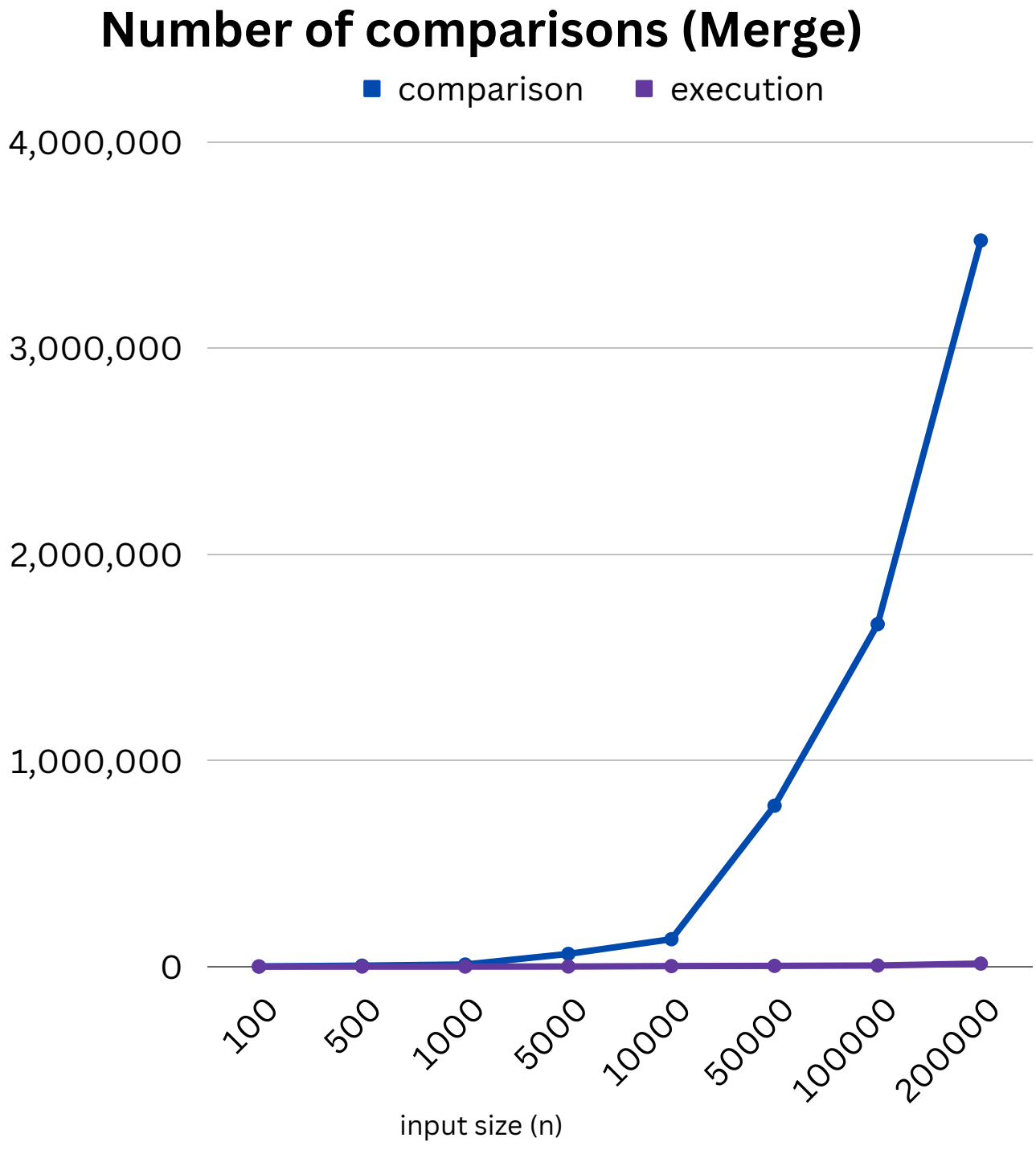

Number of comparisons (Insertion)
comparison
execution
20,000,000,000
15,000,000,000
10,000,000,000
5,000,000,000
0
100
500
1000
5000
10000
50000
100000
200000
input size (n)

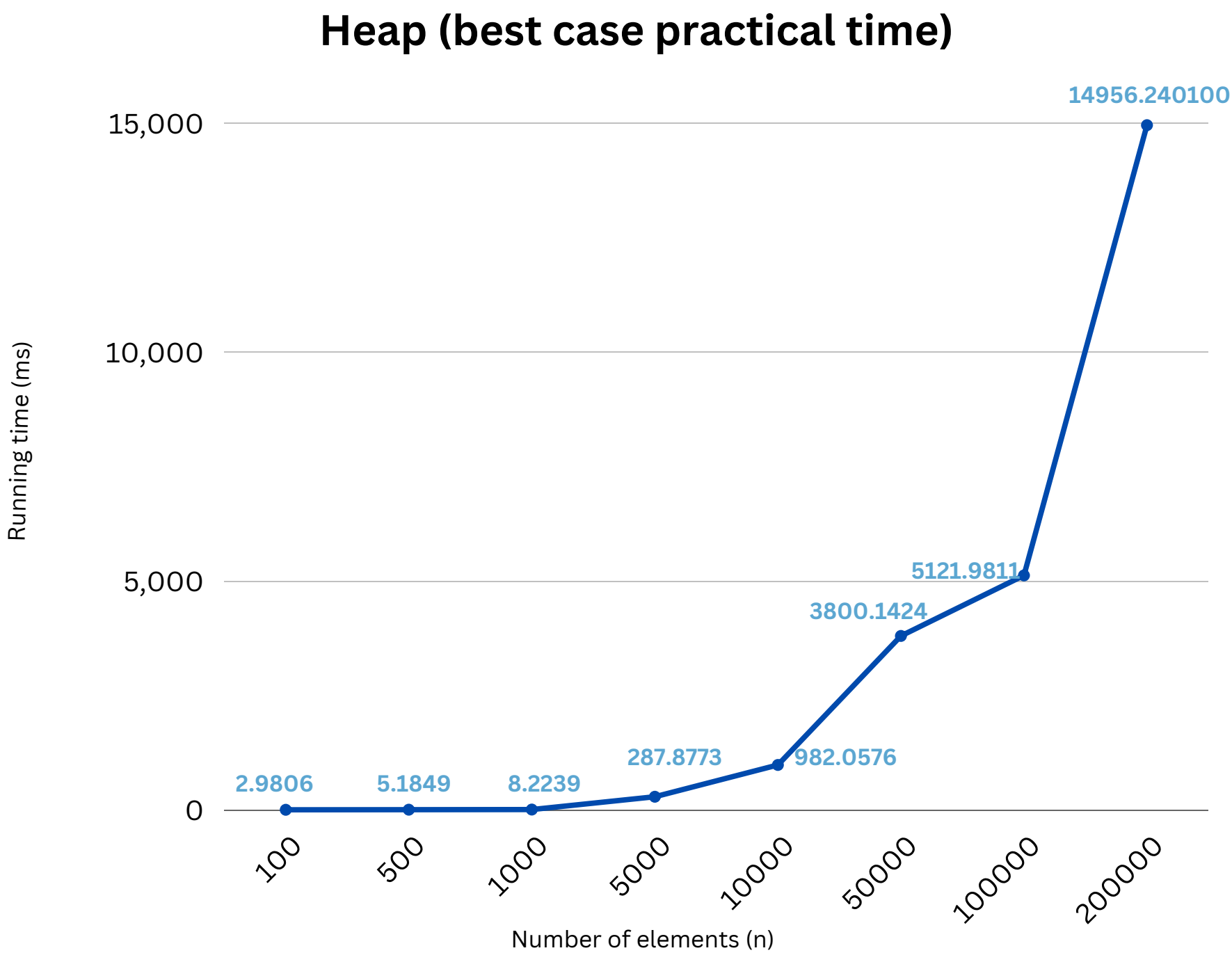

Merge (best case practical time)
20,000
15,000
10,000
5,000
0
Running time (ms)
2.9146
5.8437
20.2303
261.8856
1895.6384
3568.1897
5037.8618
15002.870700
100
500
1000
5000
10000
50000
100000
200000
Number of elements (n)

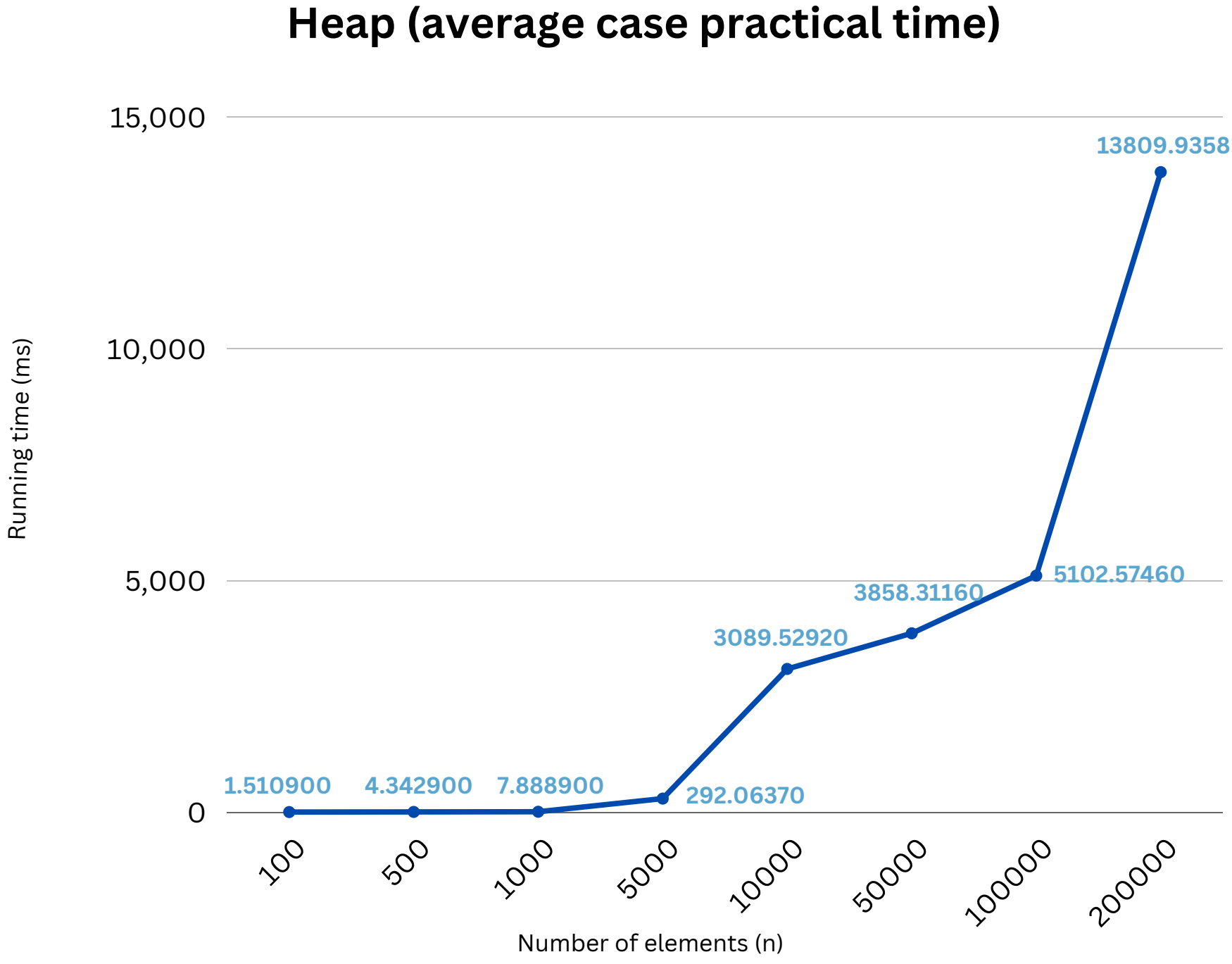

Merge (average case practical time)
40,000
30,000
20,000
10,000
0
Running time (ms)
33560.974244
3372.4146
5130.9391
1.2046
5.2056
7.7546
277.852
620.9207
100
500
1000
5000
10000
50000
100000
200000
Number of elements (n)

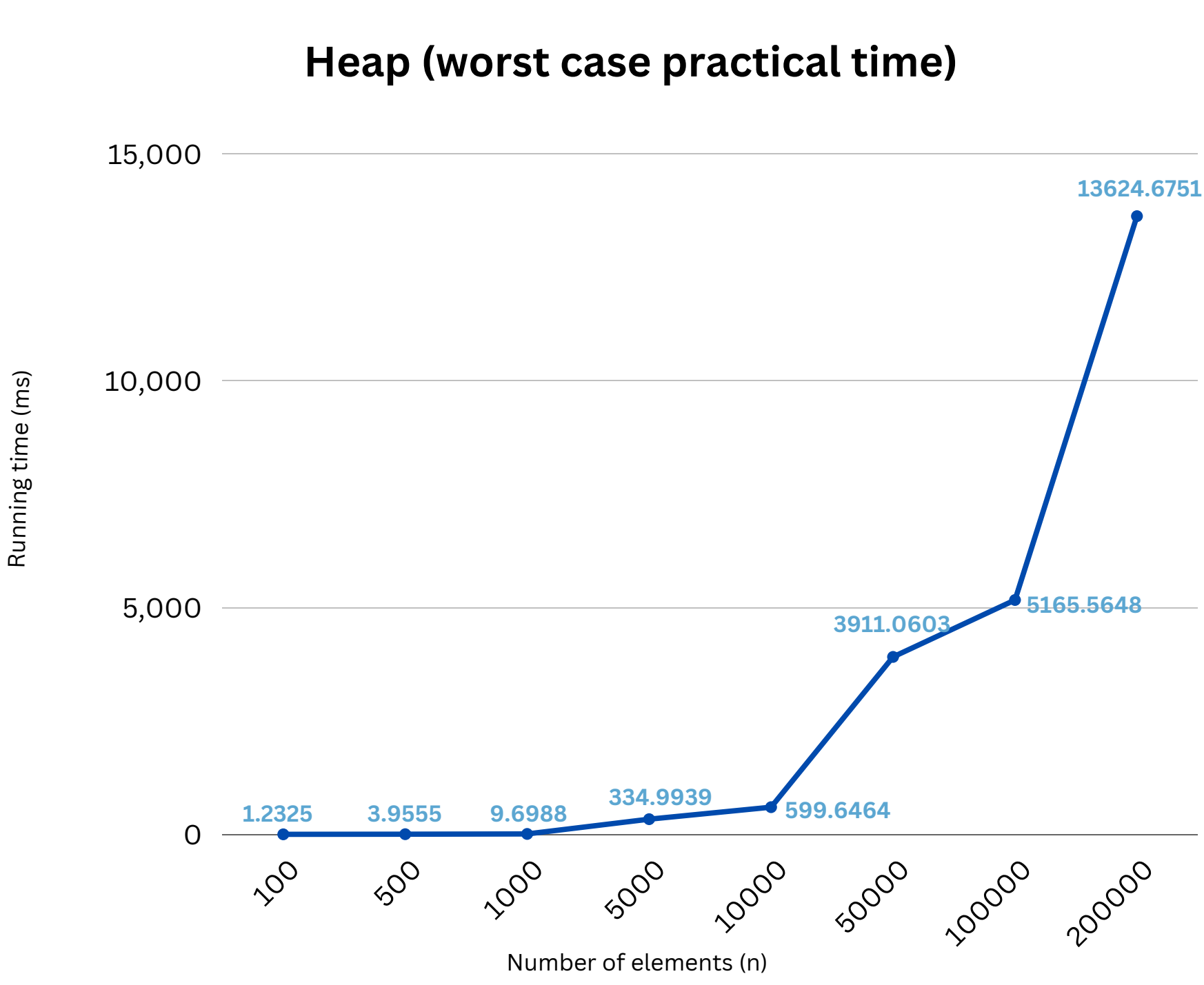

Merge (worst case practical time)
40,000
30,000
20,000
10,000
0
Running time (ms)
1.2046
4.4041
11.0436
293.611700
2371.6876
3429.7222
5202.5457
35657.681136
100
500
1000
5000
10000
50000
100000
200000
Number of elements (n)

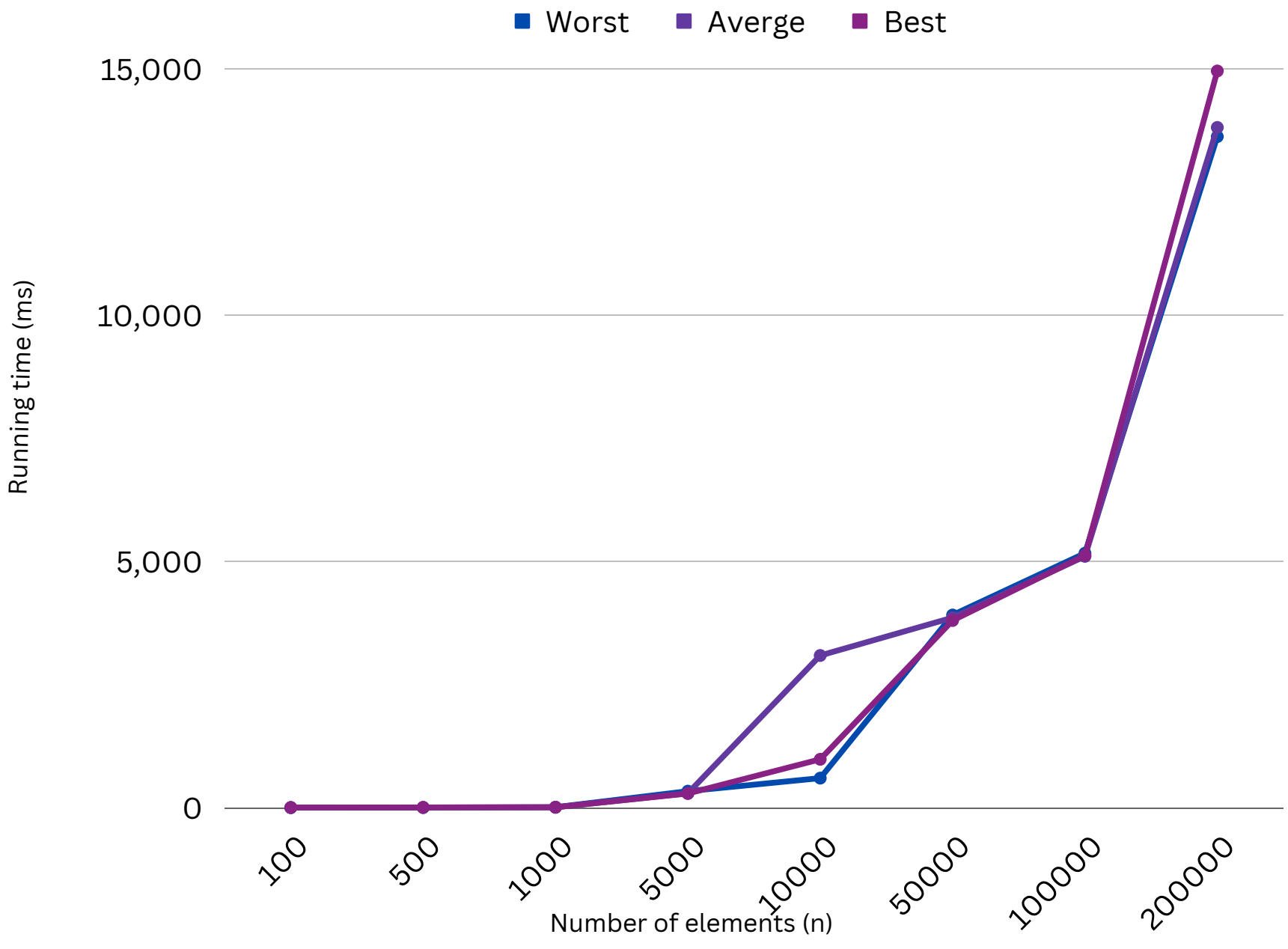

Merge (best & worst & average practical time)
Worst
Averge
Best
20,000
15,000
10,000
5,000
0
Running time (ms)
100
500
1000
5000
10000
50000
100000
200000
Number of elements (n)


Number of comparisons (Merge)
comparison
execution
4,000,000
3,000,000
2,000,000
1,000,000
0
100
500
1000
5000
10000
50000
100000
200000
input size (n)

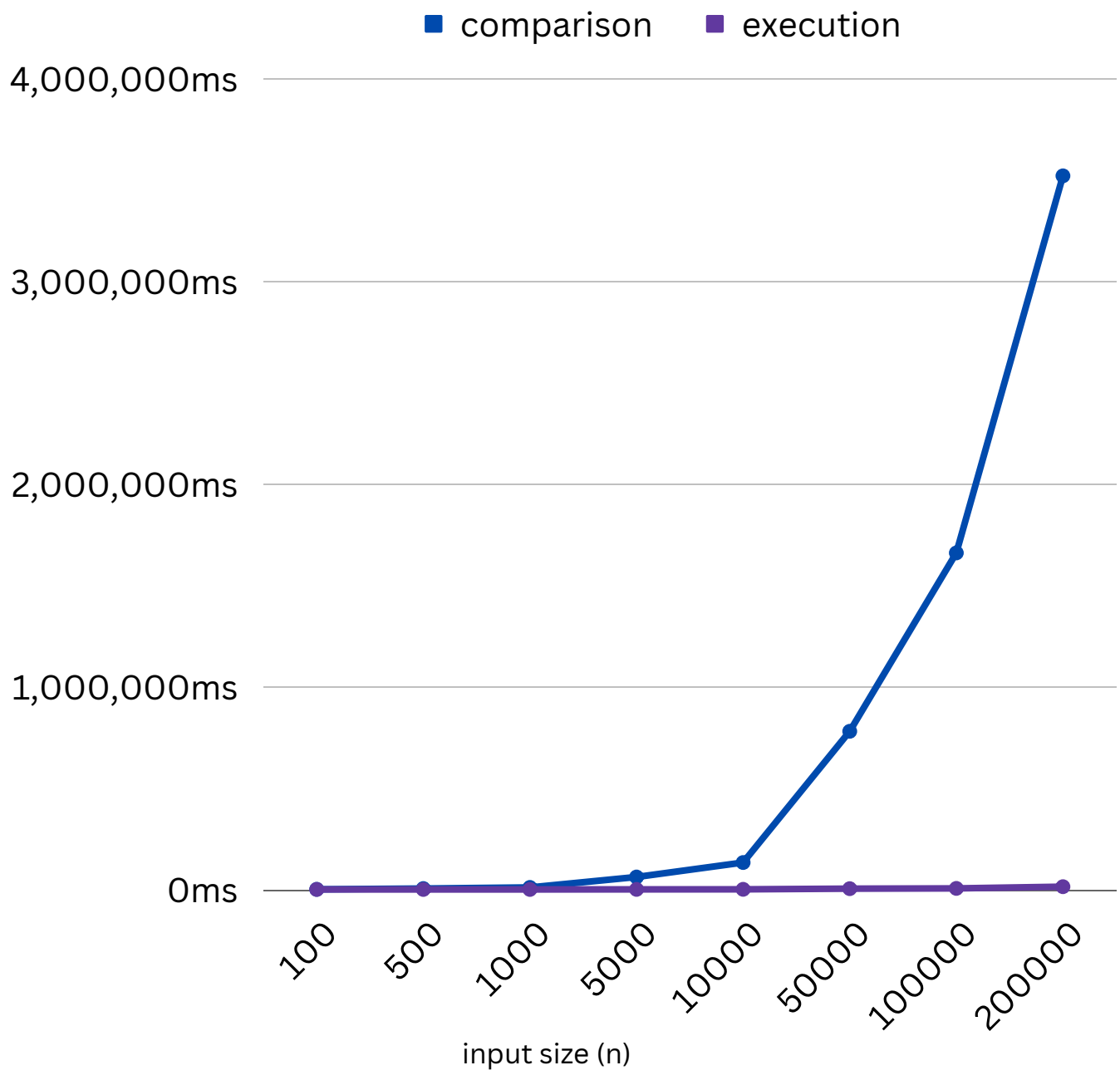

Heap (best case practical time)
15,000
10,000
5,000
0
Running time (ms)
14956.240100
5121.9811
3800.1424
982.0576
287.8773
8.2239
5.1849
2.9806
100
500
1000
5000
10000
50000
100000
200000
Number of elements (n)

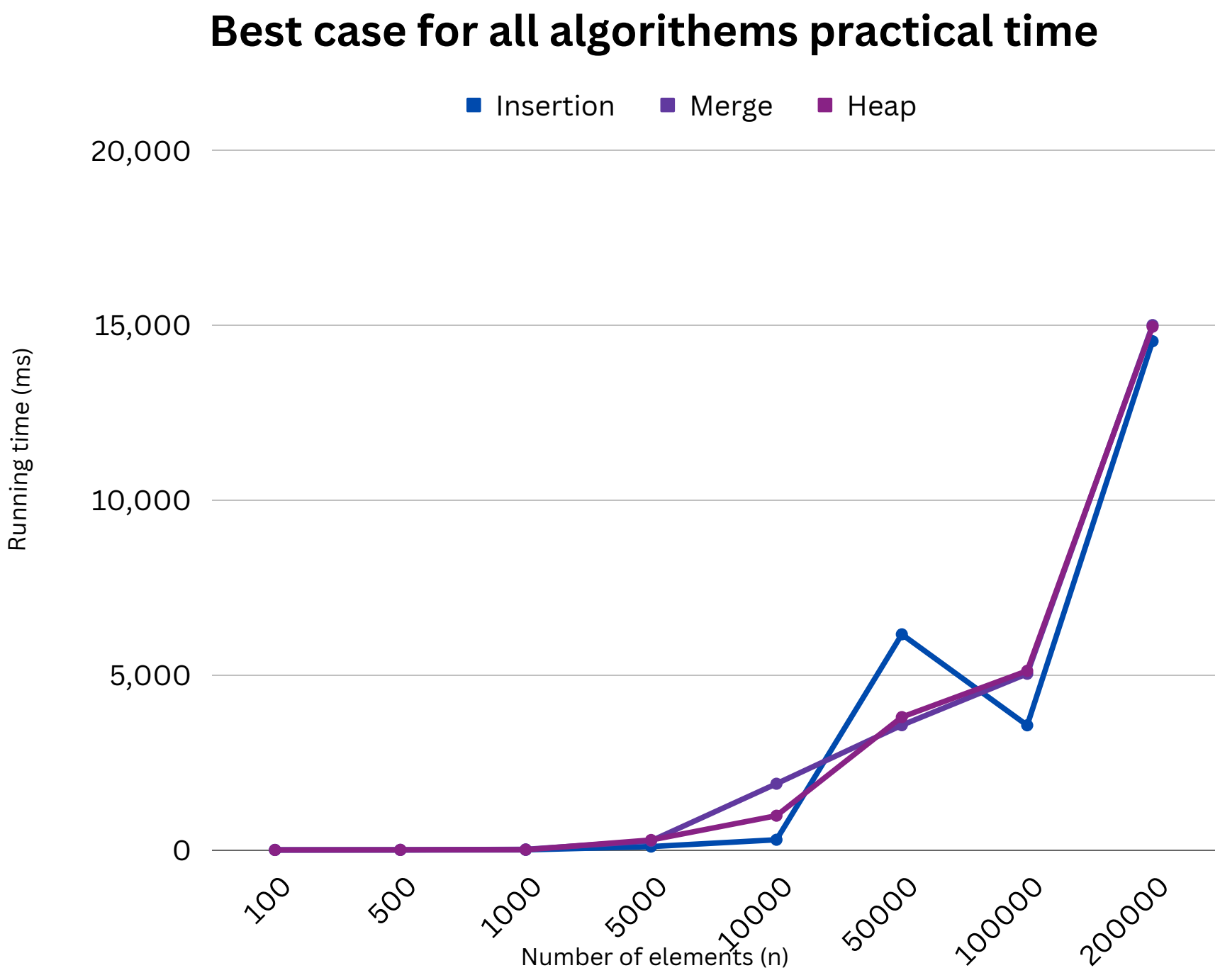

Heap (average case practical time)
15,000
10,000
5,000
0
Running time (ms)
13809.9358
5102.57460
3858.31160
3089.52920
292.06370
1.510900
4.342900
7.888900
100
500
1000
5000
10000
50000
100000
200000
Number of elements (n)

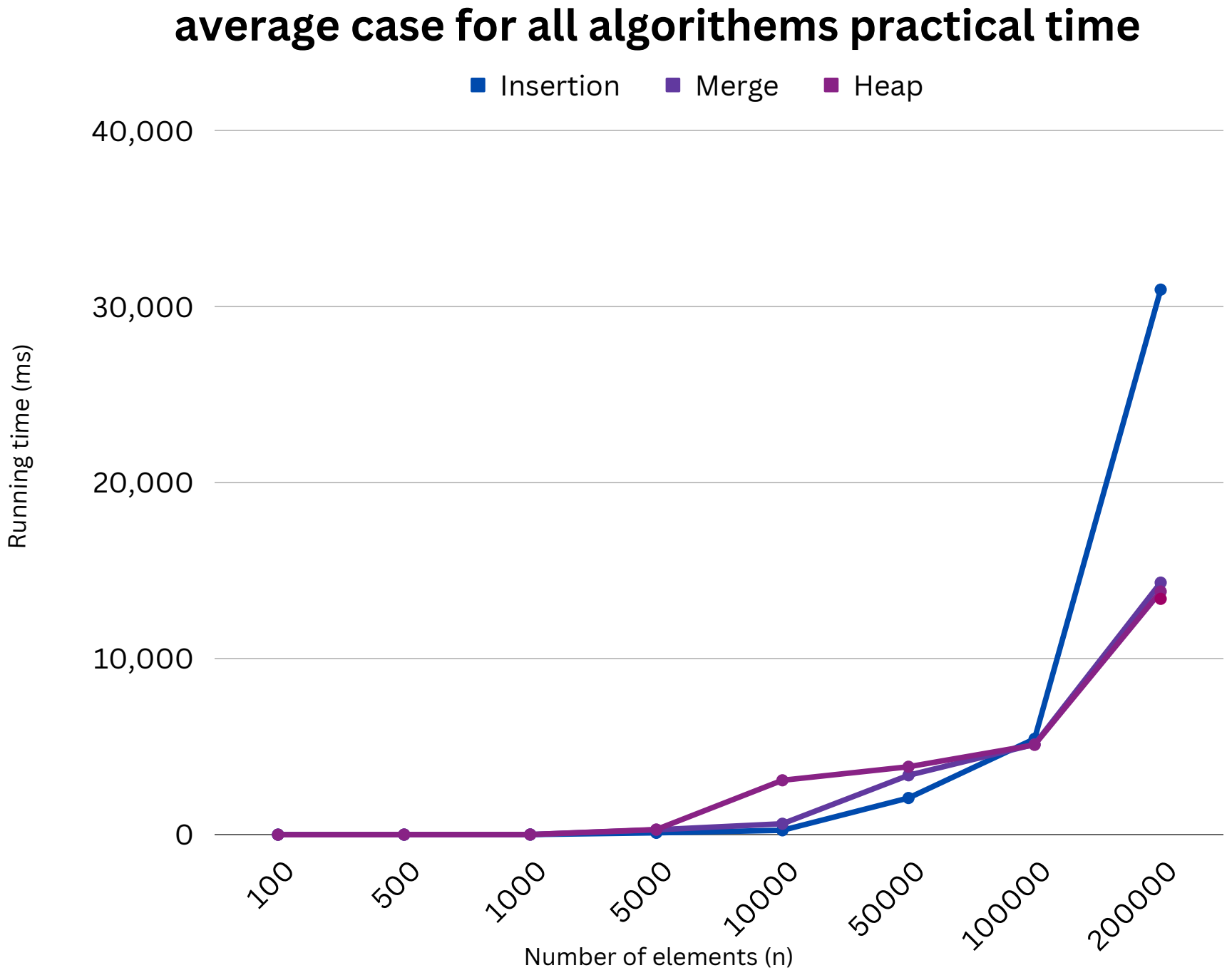

Heap (worst case practical time)
15,000
10,000
5,000
0
Running time (ms)
1.2325
3.9555
9.6988
334.9939
599.6464
3911.0603
5165.5648
13624.6751
100
500
1000
5000
10000
50000
100000
200000
Number of elements (n)

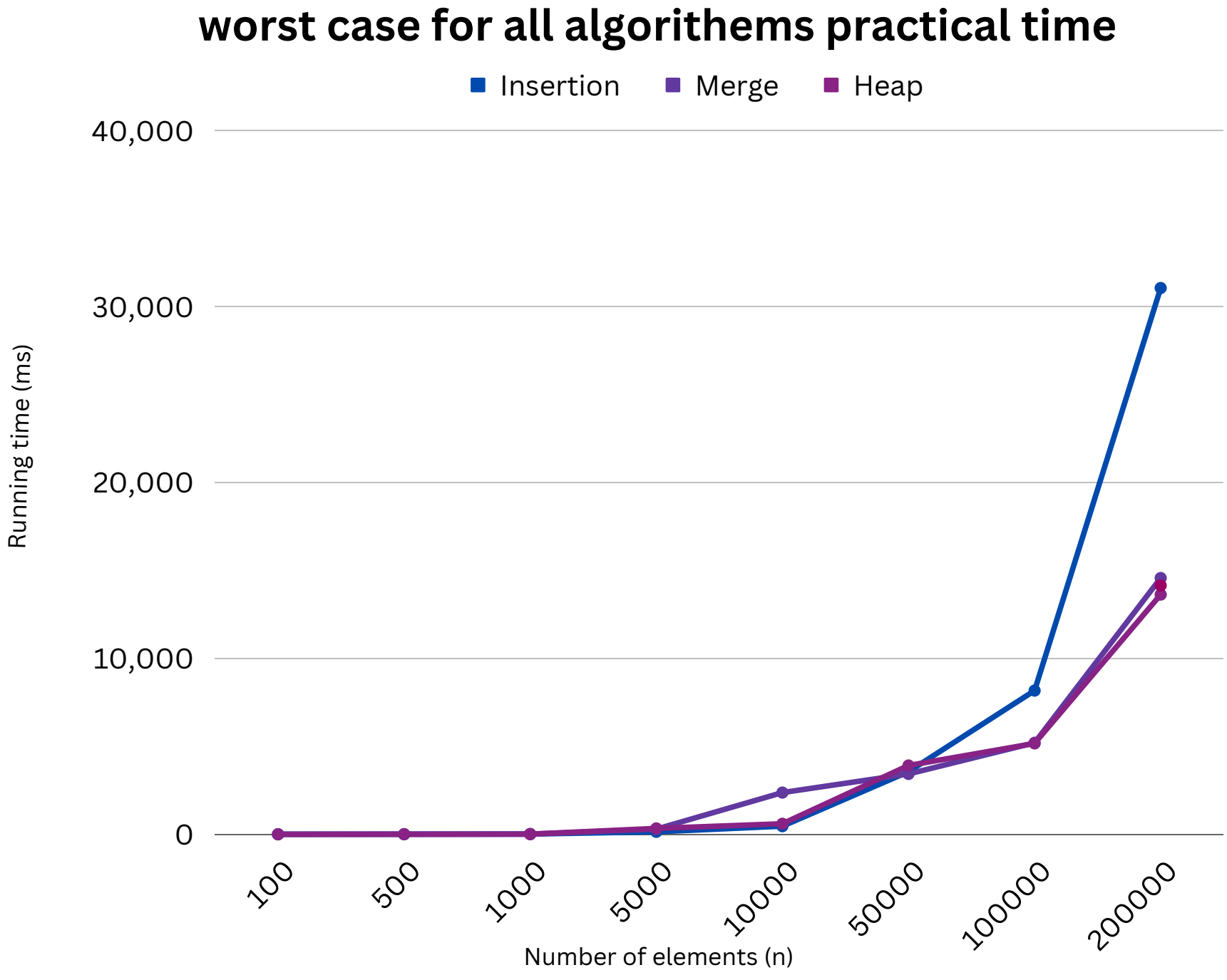

Heap (best & worst & average practical time)
Worst
Averge
Best
15,000
10,000
5,000
0
Running time (ms)
100
500
1000
5000
10000
50000
100000
200000
Number of elements (n)

Number of comparisons (heap)




Best case for all algorithems practical time
Insertion
Merge
Heap
20,000
15,000
10,000
5,000
0
Running time (ms)
100
500
1000
5000
10000
50000
100000
200000
Number of elements (n)


average case for all algorithems practical time
Insertion
Merge
Heap
40,000
30,000
20,000
10,000
0
Running time (ms)
100
500
1000
5000
10000
50000
100000
200000
Number of elements (n)


worst case for all algorithems practical time
Insertion
Merge
Heap
40,000
30,000
20,000
10,000
0
Running time (ms)
100
500
1000
5000
10000
50000
100000
200000
Number of elements (n)