

```
1 C:\Users\14535\Documents\GitHub\DataStructure\  
  Label_Ultimate\RBTree\cmake-build-debug\RBTree.exe  
2 N=10000 insert time 4.8498ms  
3 N=20000 insert time 10.3775ms  
4 N=30000 insert time 16.0083ms  
5 N=40000 insert time 21.8111ms  
6 N=50000 insert time 27.6354ms  
7 N=60000 insert time 33.5569ms  
8 N=70000 insert time 39.3265ms  
9 N=80000 insert time 45.1574ms  
10 N=90000 insert time 51.4605ms  
11 N=100000 insert time 57.7906ms  
12 N=110000 insert time 63.9469ms  
13 N=120000 insert time 70.2128ms  
14 N=130000 insert time 76.451ms  
15 N=140000 insert time 83.0087ms  
16 N=150000 insert time 89.3899ms  
17 N=160000 insert time 95.3552ms  
18 N=170000 insert time 101.785ms  
19 N=180000 insert time 107.941ms  
20 N=190000 insert time 114.047ms  
21 N=200000 insert time 120.28ms  
22 N=210000 insert time 126.244ms  
23 N=220000 insert time 132.066ms  
24 N=230000 insert time 137.78ms  
25 N=240000 insert time 143.474ms  
26 N=250000 insert time 149.132ms  
27 N=260000 insert time 154.832ms  
28 N=270000 insert time 160.475ms  
29 N=280000 insert time 166.261ms  
30 N=290000 insert time 171.924ms  
31 N=300000 insert time 177.625ms  
32 N=310000 insert time 183.365ms  
33 N=320000 insert time 189.158ms  
34 N=330000 insert time 194.941ms  
35 N=340000 insert time 200.639ms  
36 N=350000 insert time 206.353ms  
37 N=360000 insert time 212.095ms  
38 N=370000 insert time 217.891ms  
39 N=380000 insert time 223.944ms  
40 N=390000 insert time 230.032ms  
41 N=400000 insert time 236.258ms  
42 N=410000 insert time 242.129ms  
43 N=420000 insert time 247.973ms
```

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44 N=430000 insert time 253.667ms
45 N=440000 insert time 259.43ms
46 N=450000 insert time 265.219ms
47 N=460000 insert time 271.077ms
48 N=470000 insert time 276.852ms
49 N=480000 insert time 282.671ms
50 N=490000 insert time 288.514ms
51 N=500000 insert time 294.24ms
52 Search time:0.0077 ms
53 N=10000 delete time 0.2845ms
54 N=20000 delete time 0.569ms
55 N=30000 delete time 0.8543ms
56 N=40000 delete time 1.1388ms
57 N=50000 delete time 1.4233ms
58 N=60000 delete time 1.7085ms
59 N=70000 delete time 1.9927ms
60 N=80000 delete time 2.2768ms
61 N=90000 delete time 2.561ms
62 N=100000 delete time 2.846ms
63 N=110000 delete time 3.1306ms
64 N=120000 delete time 3.4151ms
65 N=130000 delete time 3.7003ms
66 N=140000 delete time 3.982ms
67 N=150000 delete time 4.2666ms
68 N=160000 delete time 4.5511ms
69 N=170000 delete time 4.8363ms
70 N=180000 delete time 5.1204ms
71 N=190000 delete time 5.4046ms
72 N=200000 delete time 5.6887ms
73 N=210000 delete time 5.9735ms
74 N=220000 delete time 6.2577ms
75 N=230000 delete time 6.5418ms
76 N=240000 delete time 6.8267ms
77 N=250000 delete time 7.1108ms
78 N=260000 delete time 7.395ms
79 N=270000 delete time 7.6791ms
80 N=280000 delete time 7.9644ms
81 N=290000 delete time 8.2489ms
82 N=300000 delete time 8.5334ms
83 N=310000 delete time 8.8185ms
84 N=320000 delete time 9.1026ms
85 N=330000 delete time 9.3899ms
86 N=340000 delete time 9.6745ms
87 N=350000 delete time 9.9598ms
```

```

88 N=360000 delete time 10.244ms
89 N=370000 delete time 10.5281ms
90 N=380000 delete time 10.813ms
91 N=390000 delete time 11.0971ms
92 N=400000 delete time 11.3813ms
93 N=410000 delete time 11.6655ms
94 N=420000 delete time 11.9503ms
95 N=430000 delete time 12.2345ms
96 N=440000 delete time 12.5186ms
97 N=450000 delete time 12.8035ms
98 N=460000 delete time 13.0876ms
99 N=470000 delete time 13.3718ms
100 N=480000 delete time 13.6559ms
101 N=490000 delete time 13.9412ms
102 N=500000 delete time 14.2253ms
103
104 00000,00000
105

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