

```
codio@bison-ship:~/workspace$ make build
rm -f program.exe
g++ -g -std=c++11 -Wall main.cpp -o program.exe
codio@bison-ship:~/workspace$ make run
./program.exe 8000 256000
```

**** mkhan292 ****

Binary Search Tree:

```
N=8000:   Time: 2 ms, Height: 31
N=16000:  Time: 4 ms, Height: 31
N=32000:  Time: 11 ms, Height: 33
N=64000:  Time: 25 ms, Height: 40
N=128000: Time: 52 ms, Height: 40
N=256000: Time: 147 ms, Height: 43
```

Vector:

```
N=8000:   Time: 7 ms
N=16000:  Time: 22 ms
N=32000:  Time: 59 ms
N=64000:  Time: 176 ms
N=128000: Time: 671 ms
N=256000: Time: 1988 ms
```

Deque:

```
N=8000:   Time: 24 ms
N=16000:  Time: 81 ms
N=32000:  Time: 289 ms
N=64000:  Time: 1083 ms
N=128000: Time: 4127 ms
N=256000: Time: 17422 ms
```

Building a data structure of N elements, in order:

BST: appears to be $O(\log(N))$

Vector: appears to be $O(N)$

Deque: appears to be $O(N^2)$

```
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```

