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CS302.1001
Assignment #4

To Compile and Run: Enter folder named 'PA04_RyanHoffman' and type 'make' to compile
and run.

Terminal Output:

```
g++ --std=c++11 proj4.cpp -o proj4
./proj4
INITIAL VECTOR WITH RANDOM VALUES:
9 2 4 8 2 4 6 5 2 9 3 8 8 3 5 3 6 7 7 2 0 3 3 8 6 3 0 6 0 9 3 1 1 7 9 6 1 6 3 6
7 7 4 7 0 1 0 6 0 9 0 2 4 3 0 0 7 0 8 9 1 3 1 3 0 2 1 4 0 4 0 9 3 6 6 3 9 8 1 9
9 3 1 3 9 3 6 6 5 6 7 6 0 0 1 0 5 2 4 5
NEW HEAP:
9 9 9 9 9 9 9 9 9 9 7 8 8 8 6 3 7 8 8 9 7 7 6 8 6 4 3 7 3 5 3 3 2 5 6 7 6 7 3 6
7 3 6 6 6 3 1 6 4 5 0 2 3 0 0 0 6 0 0 4 1 3 1 1 0 1 1 4 0 4 0 6 3 6 1 3 6 2 1 2
2 3 1 2 0 3 4 3 5 3 0 1 0 0 0 0 5 2 0 4
MEAN OF HEAP: 4
HEAP AFTER ADDING MEAN:
9 9 9 9 9 9 9 9 9 9 7 8 8 8 6 3 7 8 8 9 7 7 6 8 6 4 3 7 3 5 3 3 2 5 6 7 6 7 3 6
7 3 6 6 6 3 1 6 4 5 0 2 3 0 0 0 6 0 0 4 1 3 1 1 0 1 1 4 0 4 0 6 3 6 1 3 6 2 1 2
2 3 1 2 0 3 4 3 5 3 0 1 0 0 0 0 5 2 0 4 4
HEAP AFTER DELETING MAXIMUM ELEMENT:
9 9 9 9 9 9 8 9 9 9 7 8 8 7 6 3 7 8 8 9 7 7 6 8 6 4 3 6 3 5 3 3 2 5 6 7 6 7 3 6
7 3 6 6 6 3 1 6 4 5 0 2 3 0 0 0 4 0 0 4 1 3 1 1 0 1 1 4 0 4 0 6 3 6 1 3 6 2 1 2
2 3 1 2 0 3 4 3 5 3 0 1 0 0 0 0 5 2 0 4
HEAP AFTER SORTING:
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 3 3 3 3 3 3 3
3 3 3 3 3 3 3 3 3 4 4 4 4 4 4 4 5 5 5 5 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 7 7 7 7
7 7 7 7 8 8 8 8 8 8 9 9 9 9 9 9 9 9 9 9
cs302@cs302-VirtualBox:~/Desktop/proj4$ █
```