Writeup For the final project

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April 27, 2018

1 Tests we ran

I ran 8 sets, each 500 tests for minheap implemented and also STL and linked list priority queue. The results are set to pop as we run the code and also I have included 6 different graphs for each method as far as average time and standard deviation. The min heap which we implemented work faster than STL and the conjecture that all of them are correlated to the size of the data was accurate. for implementing LL we have the following elements in the class:
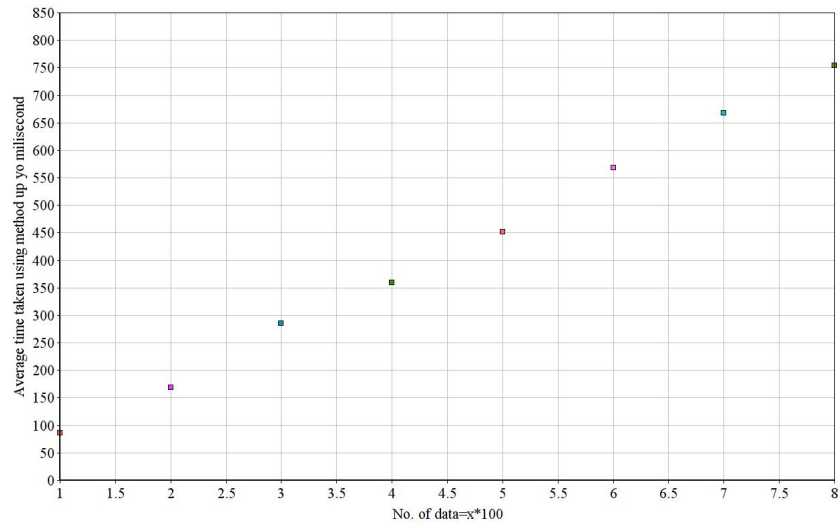
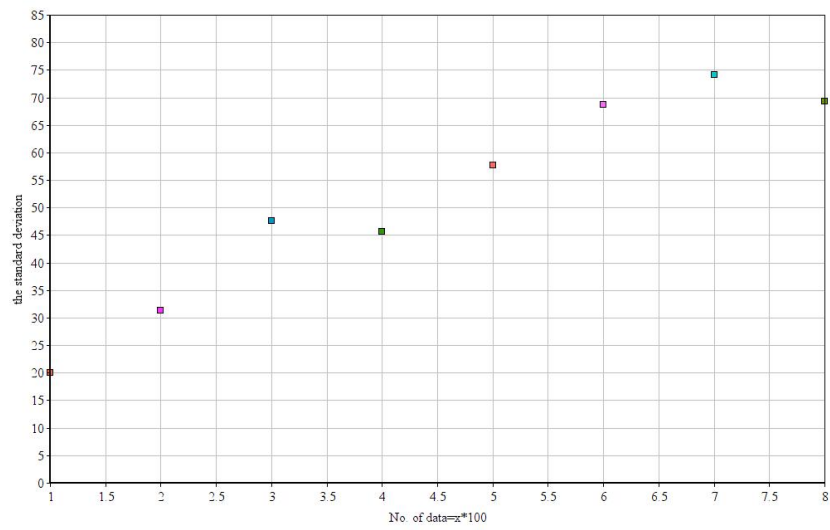push()
pop()
deletelist()
printlist()

For minheap we implemented:

push()
pop()
printheap()
heap[]
currentsize
minheapify(int)

And also for STL I didnt have to do much other than following the lecture. For almost all of them I had to make a structure patient with elements name, priority and treatment. There is also an extra function called helper function which does lexiographic ordering on patients since priority is more important. The time complexity of removing $O(logn)$ could not be seen in the graphs since it is part of what we measured as far as time.
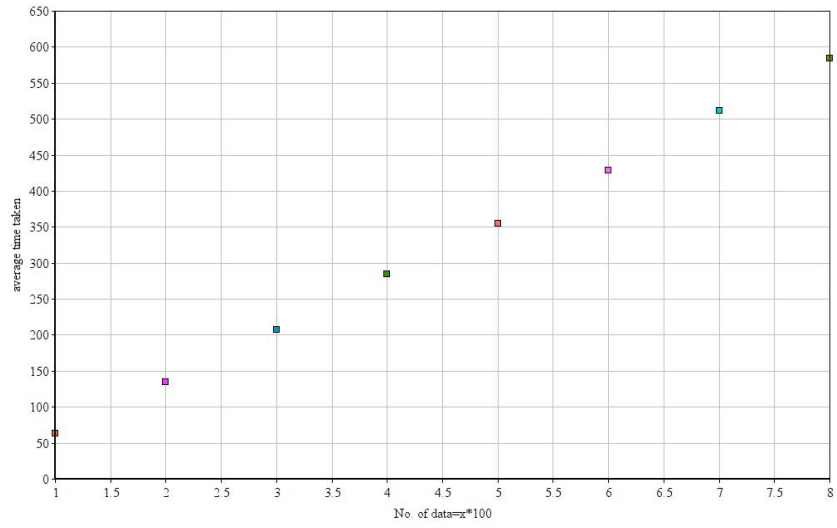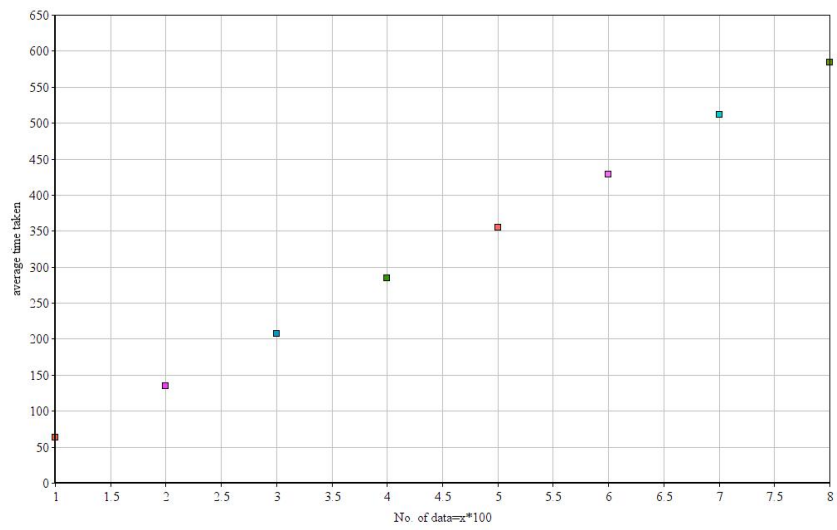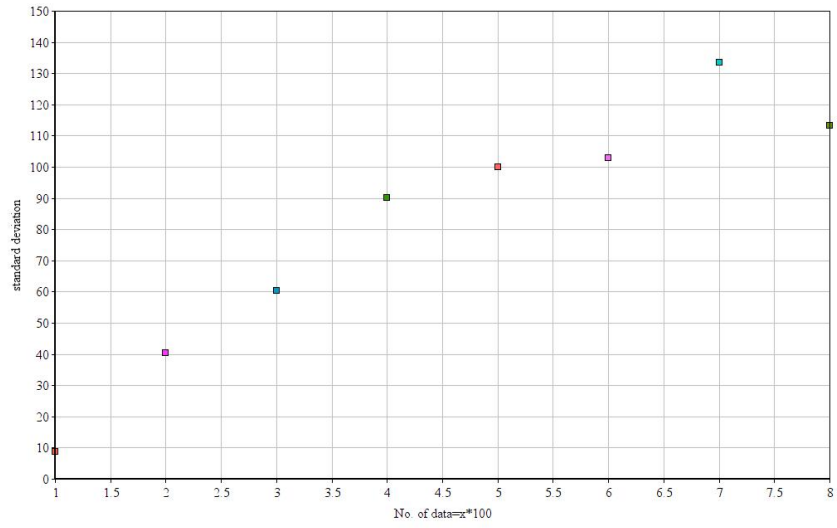
STL priority queue

STL priority queue

implemented minheap priority queue

implemented minheap priority queue

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Linked list priority queue

Linked list priority queue