Task 4(c):

Yes, i do see a difference in output between Heapsort and Bubble sort methods when I call the seeDoctor( ) function. The diffrence that i could identify was in the order of paitents in the queues sorted by the priorities of patients based on a) urgency denoted by a number(1/2/3) b) the patients who came before whom.

Although both the sorting methods could sort accurately depending on the urgency, heap sort lacked prioritizing based on who came before whom. So, heap sort could not do justice to patients with the same urgency. The reason behind this is because Heap sort is not stable because heap operations may alter the relative order of equivalent keys. However, Bubble Sort is a stable sorting algorithm. We swap elements only when A is less than B. If A is equal to B, we do not swap them, hence relative order between equal elements will be maintained.