Assignment 6

Implement two priority queues to simulate an afternoon in an emergency room. Your software should NOT be dependent on the given data.

1. Priority Queue 1
Develop software or use the author's priority queue ADT to implement a priority queue based on a heap.

2. Priority Queue 2
Use the STL priority_queue

Test both priority queues with the following data assuming that the priority queue is built at noon and Doctor DoGood is the only doctor on duty. Each patient requires 25 minutes of care. The patient who waited the longest has the highest priority unless there is a life-threatening scenario. Determine the order in which the patients will be treated. You will need to create a timer. **Output the time each appointment starts and ends.**
Assumptions:
1. When a patient's care is interrupted, they still only get 25 minutes of care total
2. If a patient's treatment starts at 1:00 and is not interrupted, then the next patient's treatment will start at 1:25
3. Waiting time is wait time before noon

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Name	Waiting Time (hours)	Start	End
Bob Bleeding	5		
Frank Feelingbad	3		
Cathy Coughing	2		
Sam Sneezing	Life threatening at 1:14 PM		
Paula Pain	4		
Sid Sickly	Life threatening at 3:01 PM		
Alice Ailment	7		
Irene Ill	1		
Tom Temperature	6		