**Extra Work**

You will get up to 25% of extra credit if you do the following:

1. Implement the priority queue using both a binary heap and an unsorted array.
   1. I use binary heap to implement priority queue
2. Run an experiment with a **sufficiently large** randomized input to compare the performance of these two priority queue implementations. To this end, you will have to include timing code as we did in the second programming assignment. The input size must be large enough to show a measurable impact of the priority queue implementation on the total time needed to process the input. Run your timing experiment using only the PR\_withPREMP algorithm described above.
   1. I don’t have any sufficiently large randomized input so I cannot do it
   2. The program output meet all sample output in the assignment

Write a report summarizing the performance results that you get (which priority queue implementation is faster and how much faster it is).

* I use binary heap to implement the priority queue so the run time is low
  + Enqueue : O(logn)
  + Dequeue: O(logn)
* Unsorted array takes O(n) for both enqueue and dequeue
* So binary heap solution runs faster