Section: CPS3410

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Title: Project Document

**Instruction**

This is a project implementing priority queue in two different algorithm. Priority queue is to arrange a queue according to the priority of each element in queue. The older version of priority queue is to sort the elements in an array according to the priority of each element. The new version is to store the elements into a minimum heap. Elements with lower priority will be put at the front positions of the queue.

**Diagram**

|  |  |  |
| --- | --- | --- |
| Function | Time Complexity(Old) | Time Complexity(New) |
| insert | O(N) |  |
| delete\_min | O(N) |  |
| isEmpty | O(1) |  |
| findMin | O(1) |  |
| deleteMin | O(N) |  |