

# DAX-14

## Overview of Heap queue (heapq)

refer: Geeks for Geeks

- mainly used to represent a priority queue.
- used through "heapq" module.

### Operations on heap:-

heapify() → ~~is~~ used to convert into heap data structure

heappush() → insertion

heappop() → to remove and return the smallest element from heap.

heappushpop() → combining functions of push and pop in order to increase efficiency.

heapreplace()

→ also does insert and remove, but different from the above  
\* first popped - then pushed.



`nlargest(k, iterable, key = fun)` :-  
→ to return  $k$  largest elements from the iterable specified and satisfying the key if mentioned.

`nsmallest(k, iterable, key = function)` :-  
Same as above, but it deals with smallest.

**Application: =**

→ Used in heapsort algorithm.

→ Priority queues can be efficiently implemented using Binary Heap, 'coz it supports insert, delete functions.

\* Heap implemented priority queues are used in Graph algs.