

## 4.1 Abstract Data Type (ADT)

**Definition 4.1** *A description of information and a collection of operations on that information*

**Definition 4.2** *Priority Queue : An ADT Consisting of a collection of items (each having a priority) with operations*

- *Insert* : inserting a item tagged with a priority
- *deleteMax* : removing the items of highest priority

### 4.1.1 Realizations of Priority Queues

**Attempt 1** : Using a unsorted array or unsorted link list

- insert:  $O(1)$
- deleteMax :  $O(n)$

**Attempt 2** : Using a sorted array or link-list

- Insert :  $O(n)$
- deleteMax :  $O(1)$