CS 240 - Data Structures and Data Management

Spring 2017

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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)

 \bullet deleteMax : O(1)