

# Dynamic data structures (lists, queues, tree structures)

## Lists (arrays)

- Searching a value —  $O(n)$
- Deleting a value —  $O(n)$  (because of shifting)
- Insertion —  $O(n)$  (shifting)

## Queues

- FIFO data structure (First in First out)
- Insertion —  $O(1)$
- Deletion —  $O(1)$

## Tree

- Height of a node — length of the longest path down to a leaf.
- Depth of a node — length of the path to it's root.
- Degree of a node — number of its children.