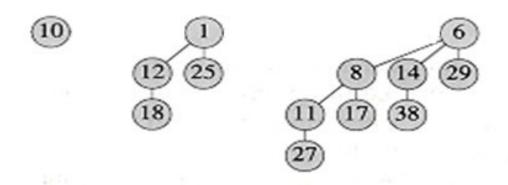
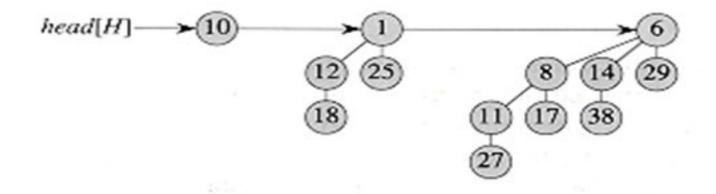
## Binomial Heap Implementation (1/4)



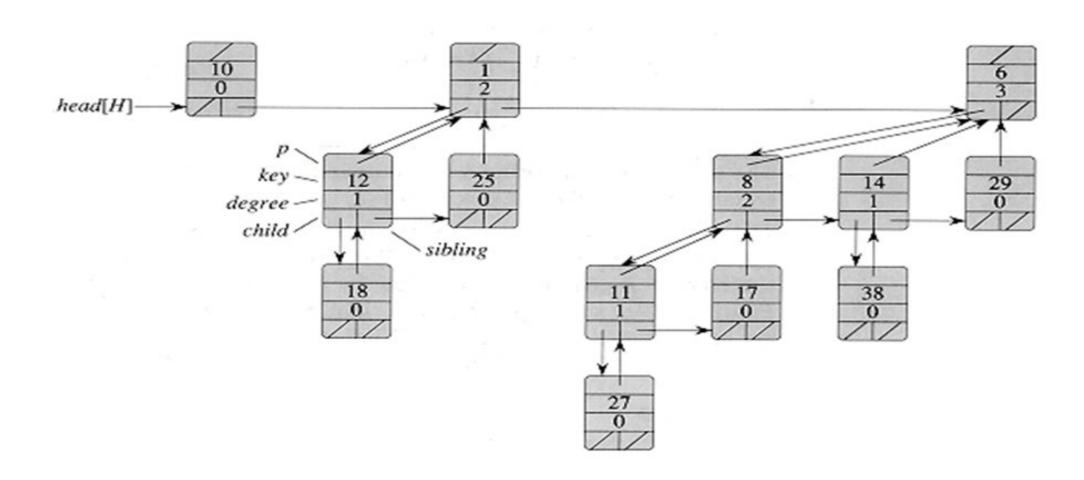
All the children of a node need to be linked together

- How?
- In which order?

# Binomial Heap Implementation (2/4)



# Binomial Heap Implementation (3/4)



## Binomial Heap Implementation (4/4)

### Heap node structure:

- Parent pointer: points to the parent
- Key: stores the key
- Degree: stores the degree of the subtree rooted at this node. The degree of a binomial tree B<sub>i</sub> is i
- Sibling pointer: points to the next sibling
- Child pointer: points to the left most child with the largest degree
- Other fields
  - > Key
  - Task attributes (name, release time, deadline, execution time)

# How to Use Priority Queues to Find A EDF Schedule?

#### Hints:

- Sorting cannot solve this problem
- Three priority queues are needed:
  - Release time priority queue
    - This queue stores all the tasks where the key of each task is its release time
  - Deadline priority queue
    - This queue stores all the ready tasks where the key of each task is its deadline
  - Scheduling point priority queue
    - This queue stores all the cores where the key of each core is its next available time for executing a task