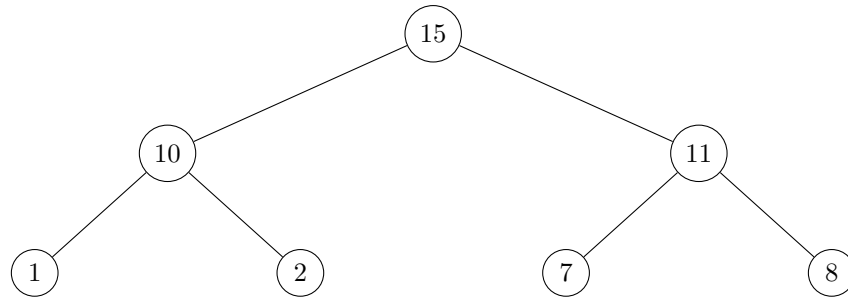


Tutorial 03: May 29

1. Operations on (max)Heap

Insert 27 and 9 into the following heap, and then perform a delete-max operation on the resulting heap.

**2. SimpleHeapBuilding**

Prove or justify worst-case running time of following pseudocode is in $\Theta(n \log n)$. Note that this code is part of module 02.

```
simpleHeapBuilding(A)
A: an array
1. initialize H as an empty heap
2. for i ← 0 to A.size() - 1 do
3.   H.insert(A[i])
```

3. Min-Heap Max Search

Given a full min heap H of size n , design an efficient algorithm to find the maximum value based on the number of comparisons needed.