Priority Queue

An Introduction

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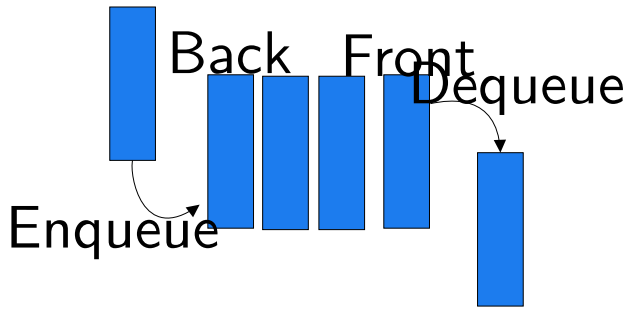
What is a Priority Queue?

A priority queue is an abstract data type which is like a regular queue or stack data structure, but where additionally each element has a "priority" associated with it. In a priority queue, an element with high priority is served before an element with low priority.
A Binary (Max) Heap is a complete binary tree that maintains the Max Heap property. Binary Heap is one possible data structure to model an efficient Priority Queue (PQ) Abstract Data Type (ADT). In a PQ, each element has a "priority" and an element with higher priority is served before an element with lower priority (ties are broken with standard First-In First-Out (FIFO) rule as with normal Queue). Try clicking ExtractMax() for a sample animation on extracting the max value of random Binary Heap above. To focus the discussion scope, we design this visualization to show a Binary Max Heap that contains distinct integers only.

What is a Queue?

A queue is an example of a linear data structure, or more abstractly a sequential collection. Queues provide services in computer science, transport, and operations research where various entities



What is a Queue?

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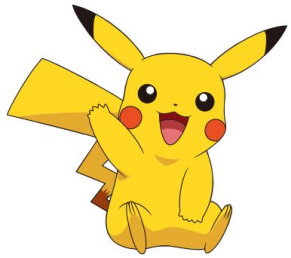

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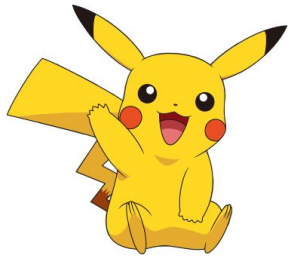

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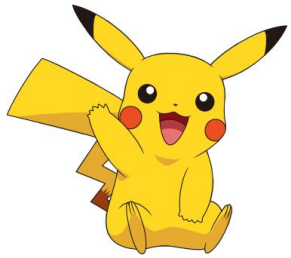

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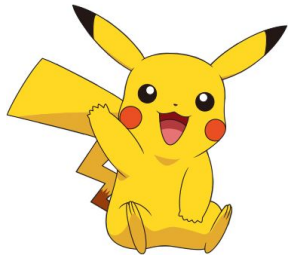

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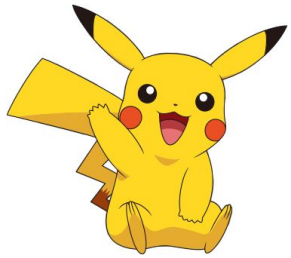

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Simulation

Another Simulation

Table	X	Y
A	1	0
B	0	1

Another Simulation

Table	X	Y
A	1	0
B	0	1

Another Simulation

Table	X	Y
A	1	0
B	0	1

Another Simulation

Table	X	Y
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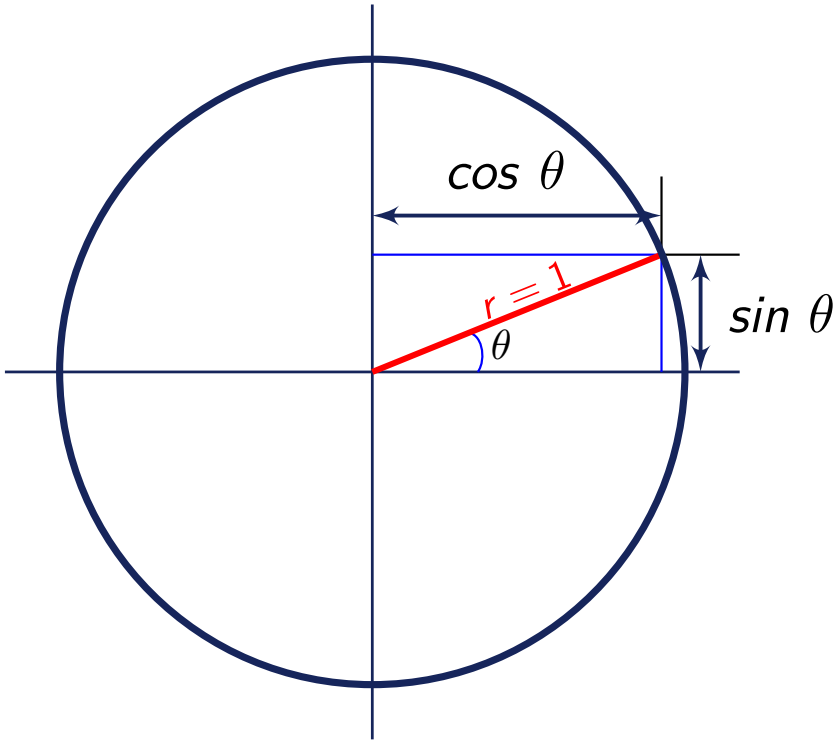
Use of Columns and Images



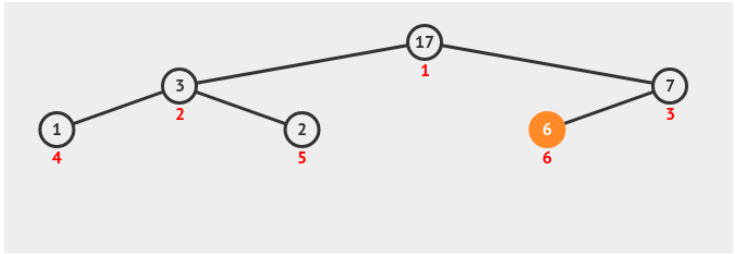


Figure: Alternate representation of Pythagorean theorem.

Blocks

Sample Block

This is a sample block.

Sample Alert Block

This is a sample alert block.

Example

Sample example.

Blocks

Sample Block

This is a sample block.

Sample Alert Block

This is a sample **alert block**.

Example

Sample example.

Blocks

Sample Block

This is a sample block.

Sample Alert Block

This is a sample alert block.

Example

Sample example.

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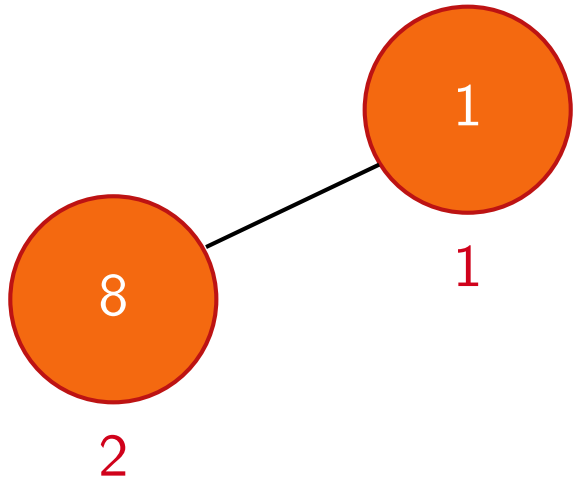
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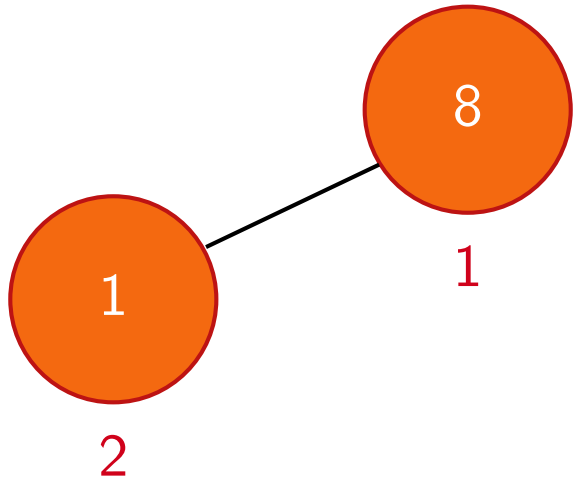
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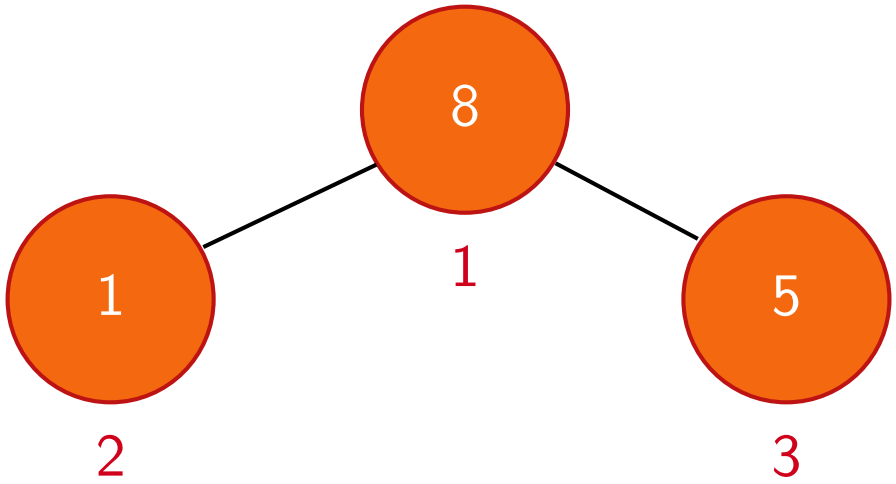
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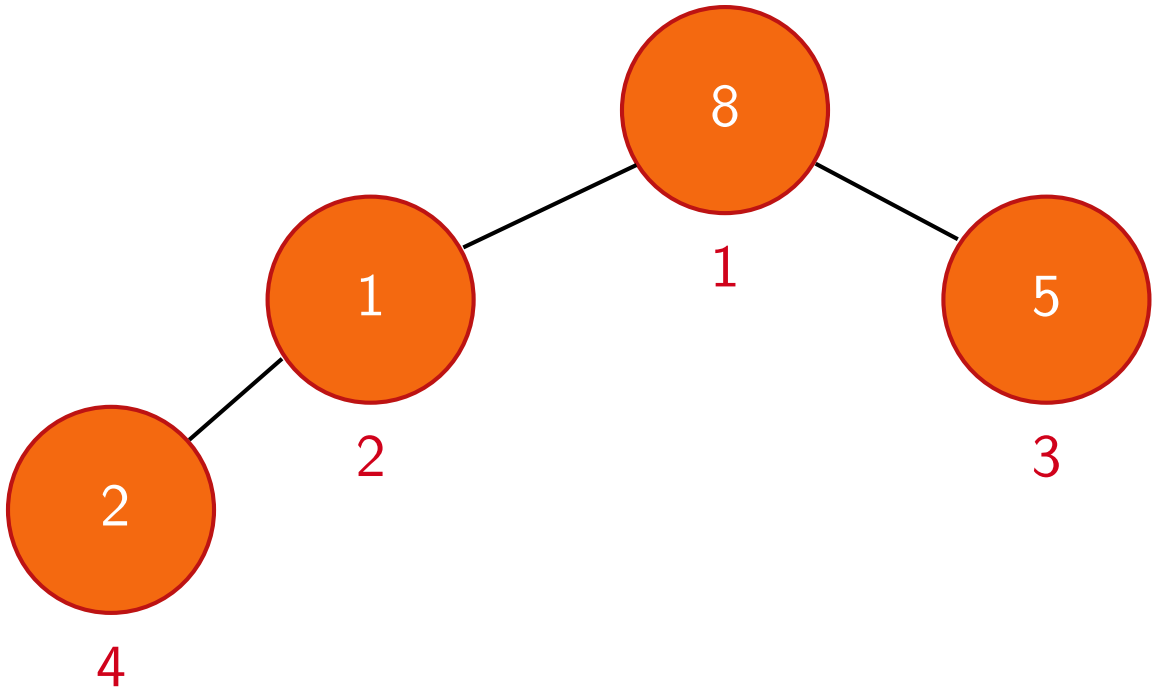
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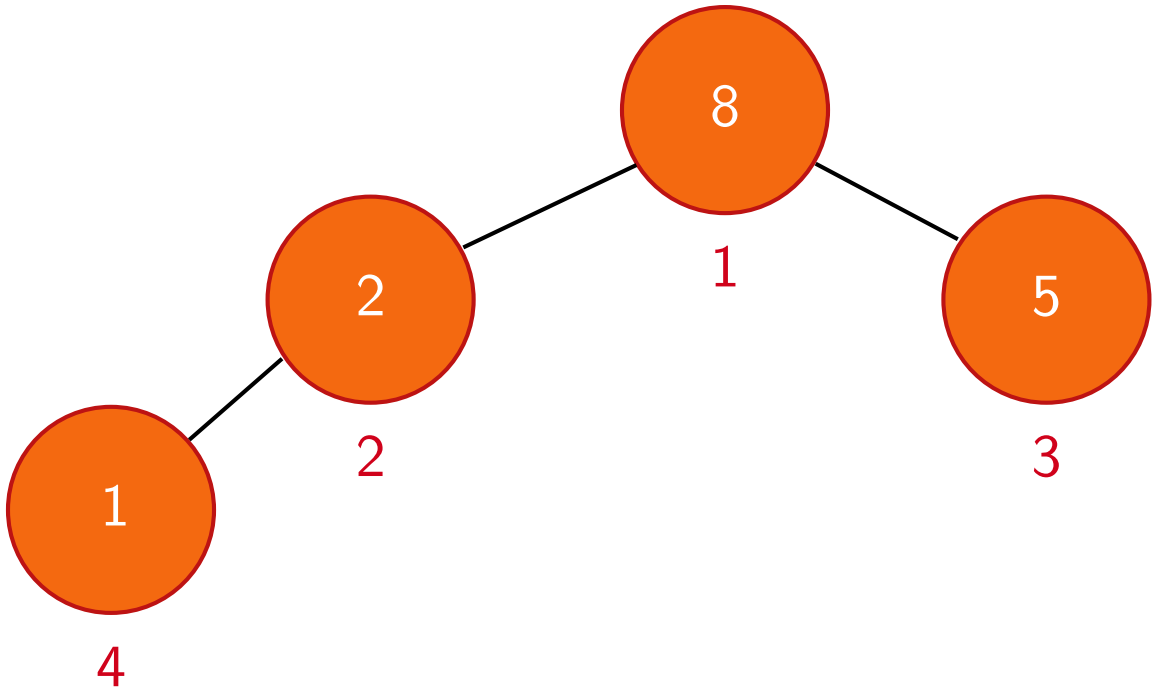
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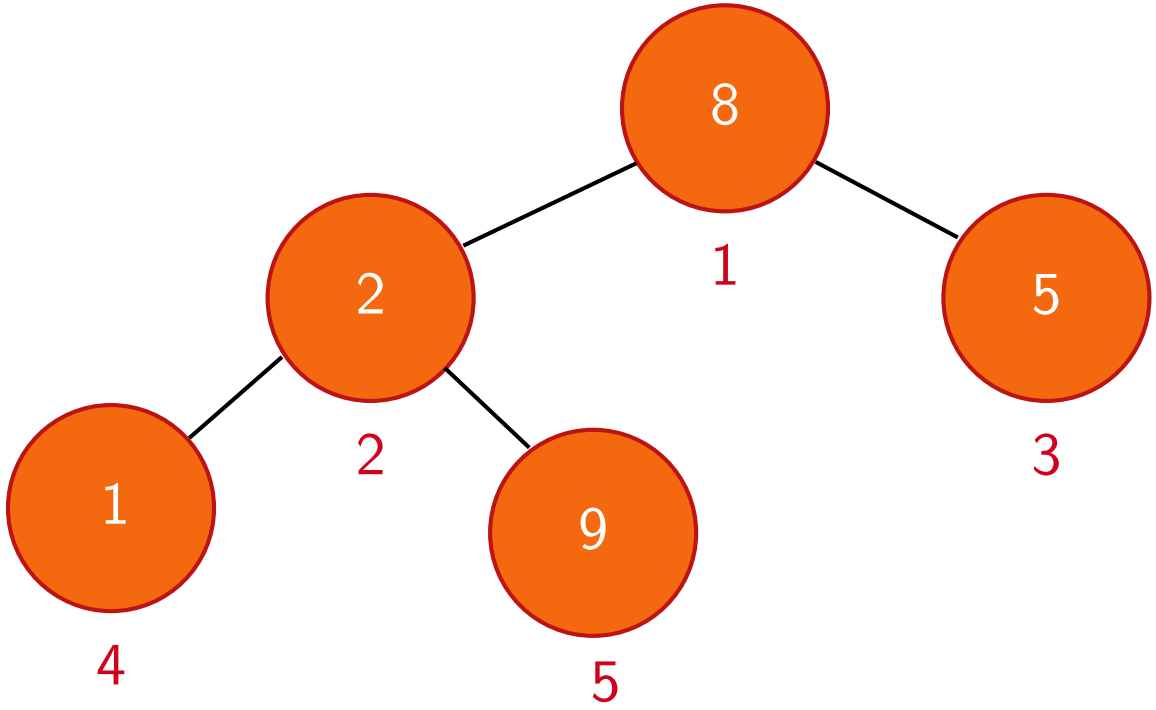
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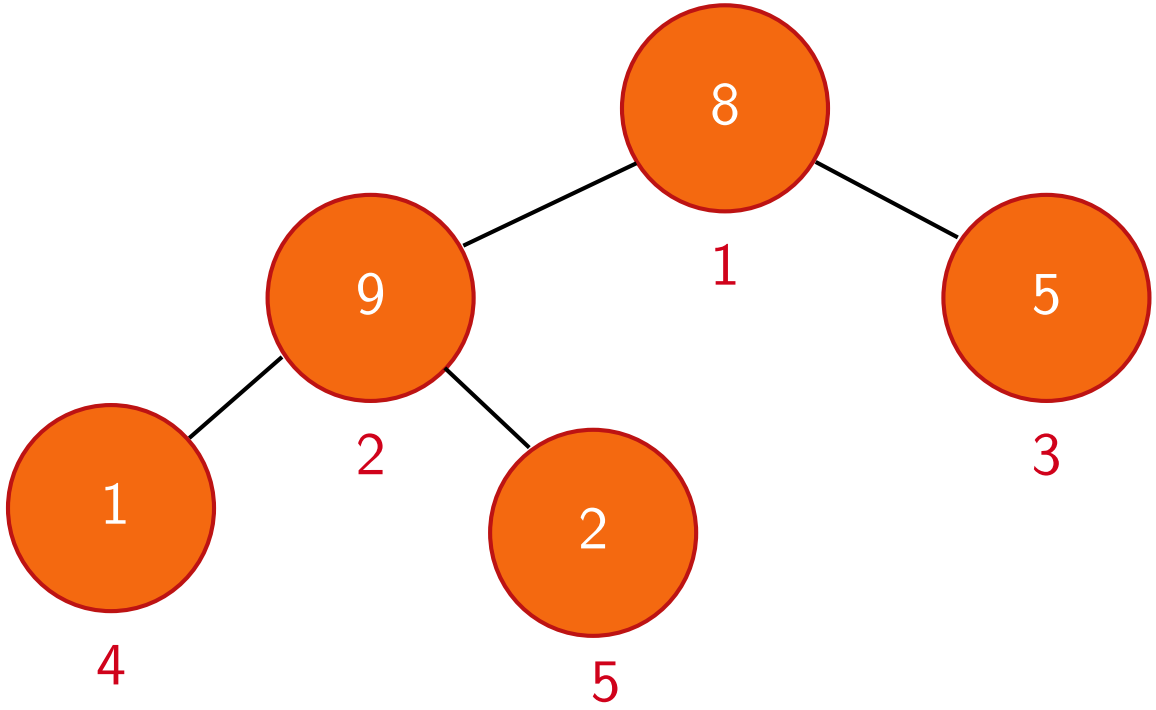
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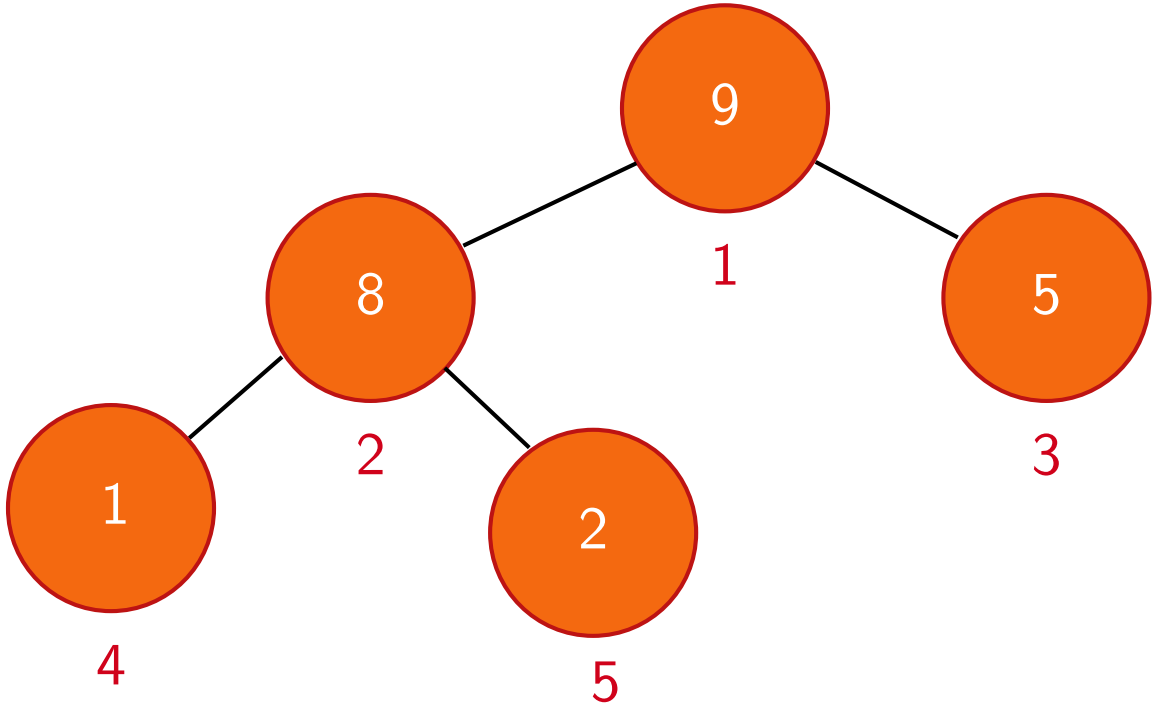
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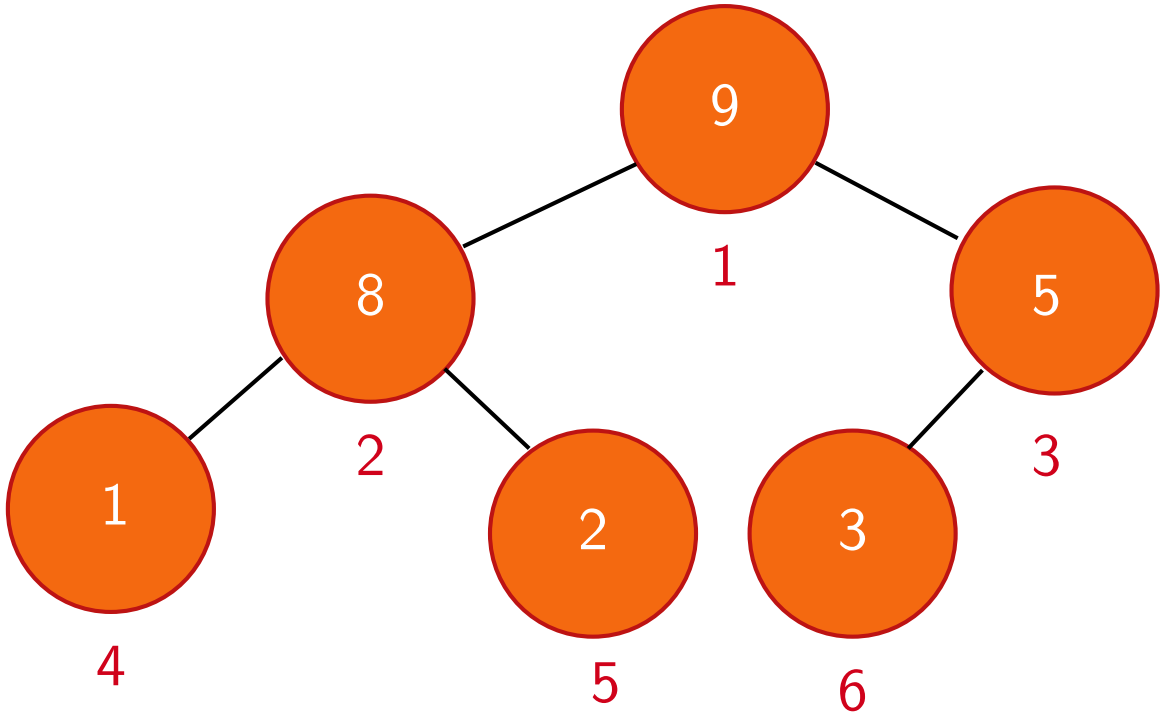
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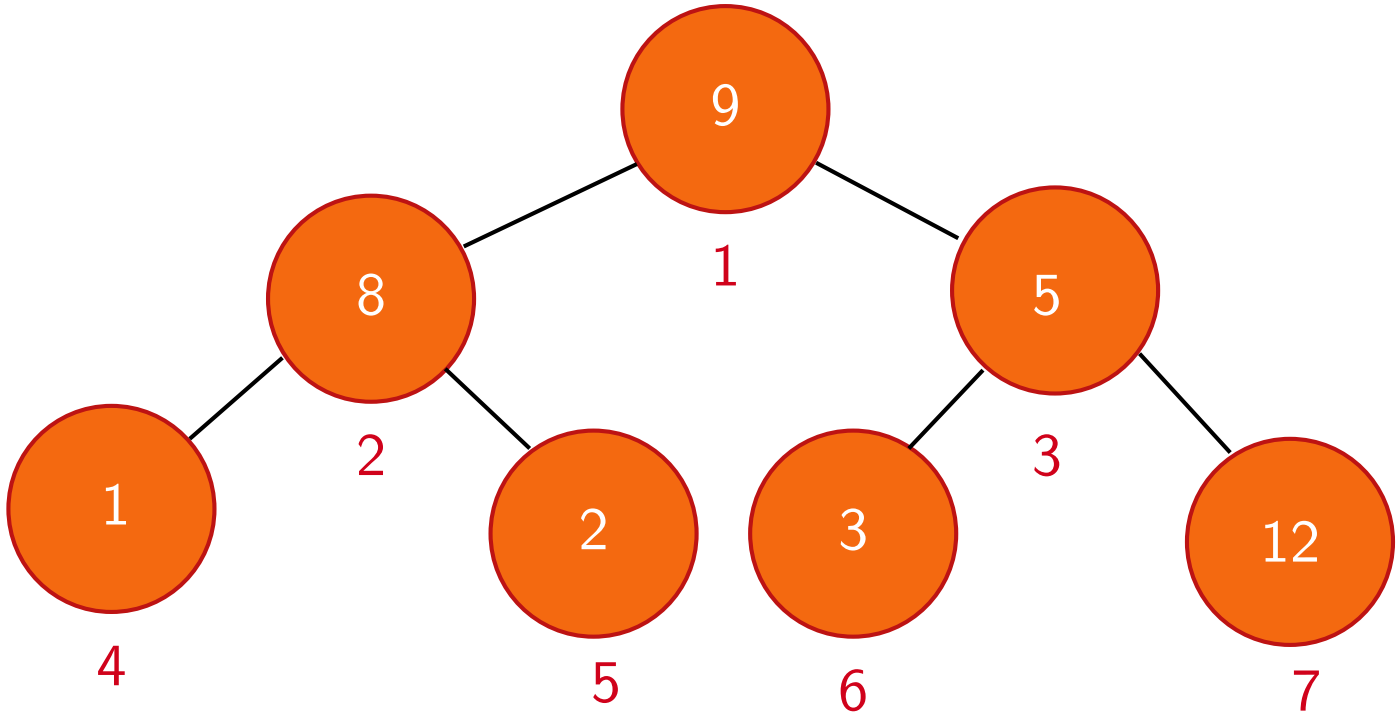
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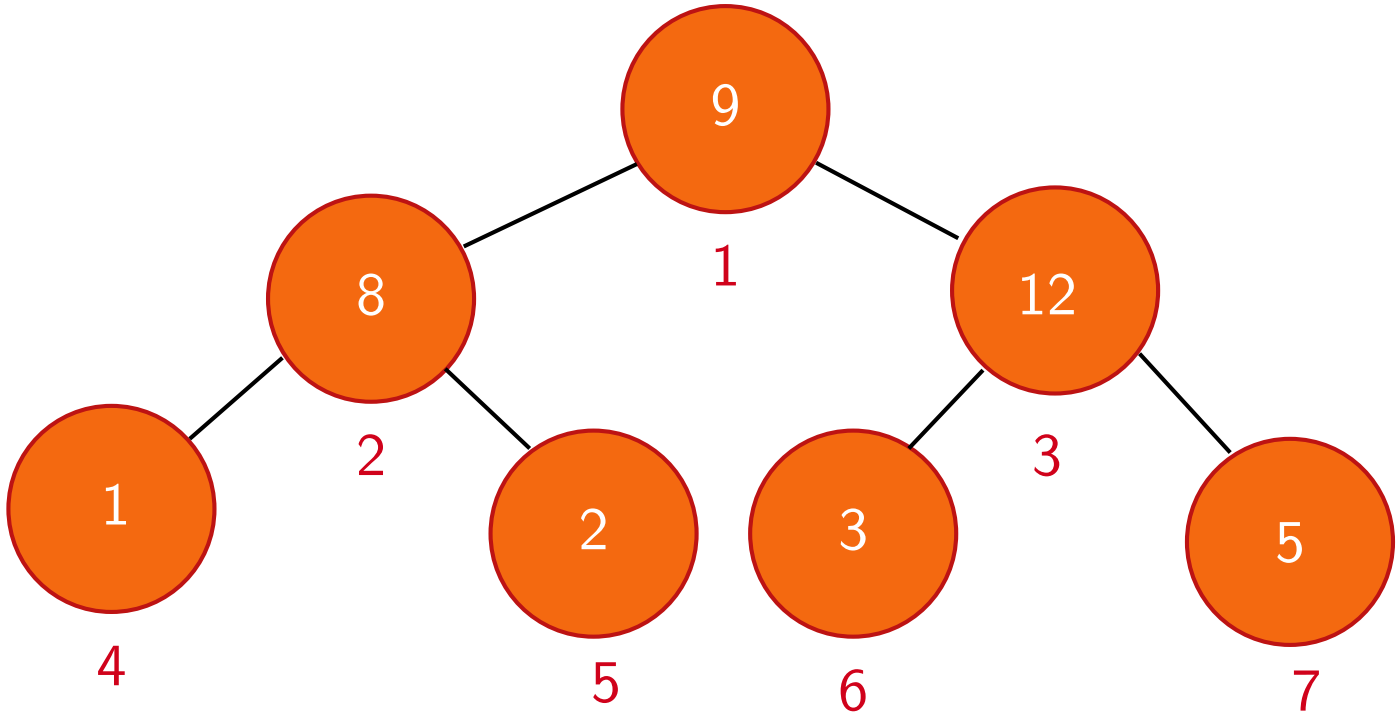
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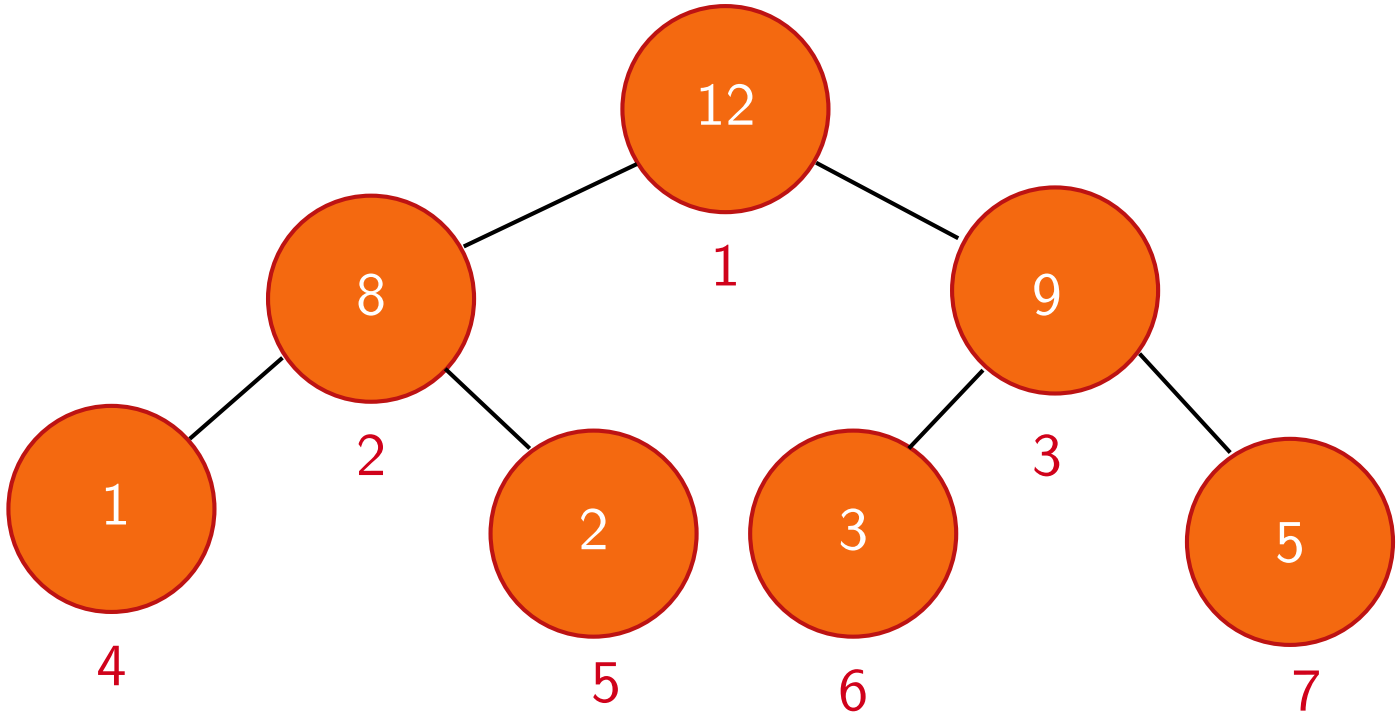
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