



## DATA STRUCTURES II

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► *heapify demo*

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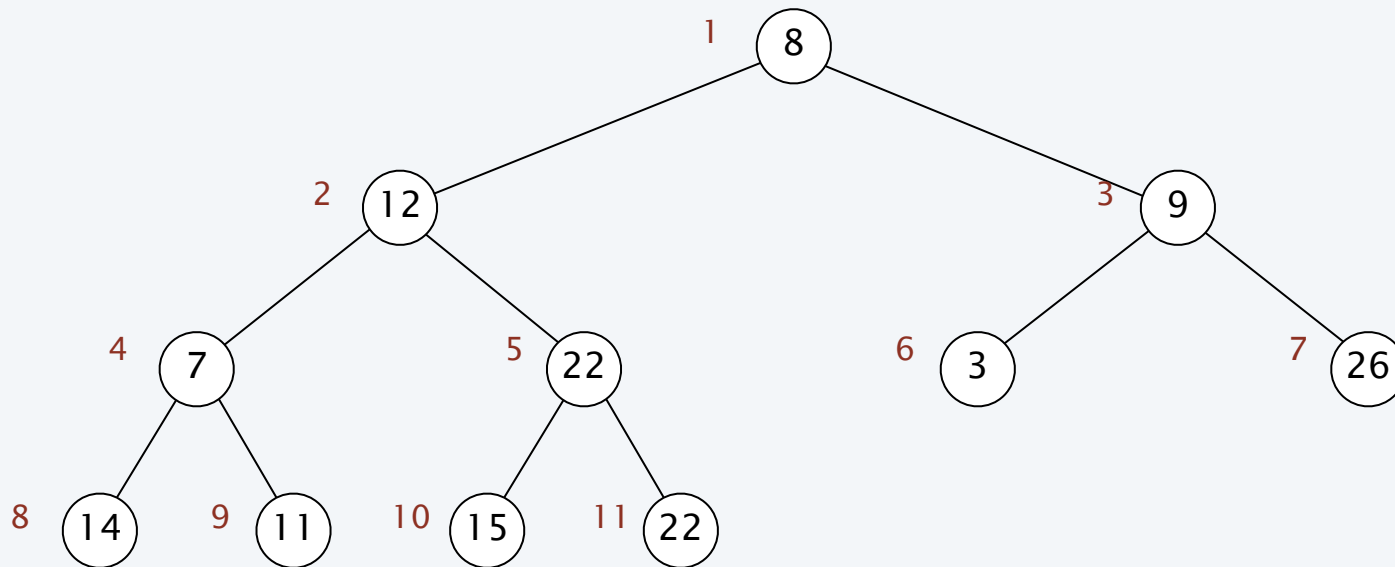
<http://www.cs.princeton.edu/~wayne/kleinberg-tardos>

# Heapify demo

**Heapify.** For each element in reverse-array order, sink it down.

we assume array entries are indexed 1 to N

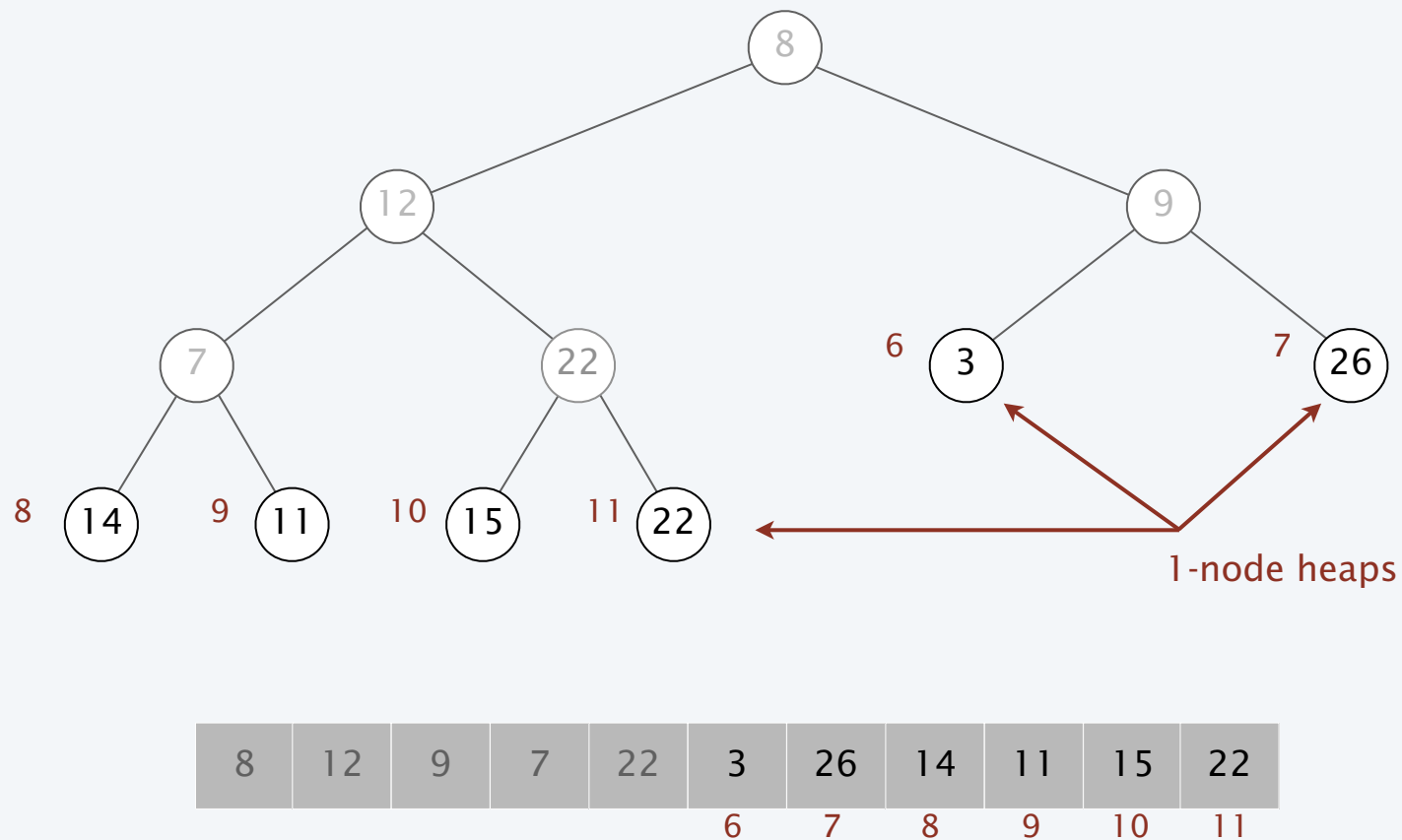
array in arbitrary order



8	12	9	7	22	3	26	14	11	15	22
1	2	3	4	5	6	7	8	9	10	11

# Heapify demo

**Heapify.** For each element in reverse-array order, sink it down.

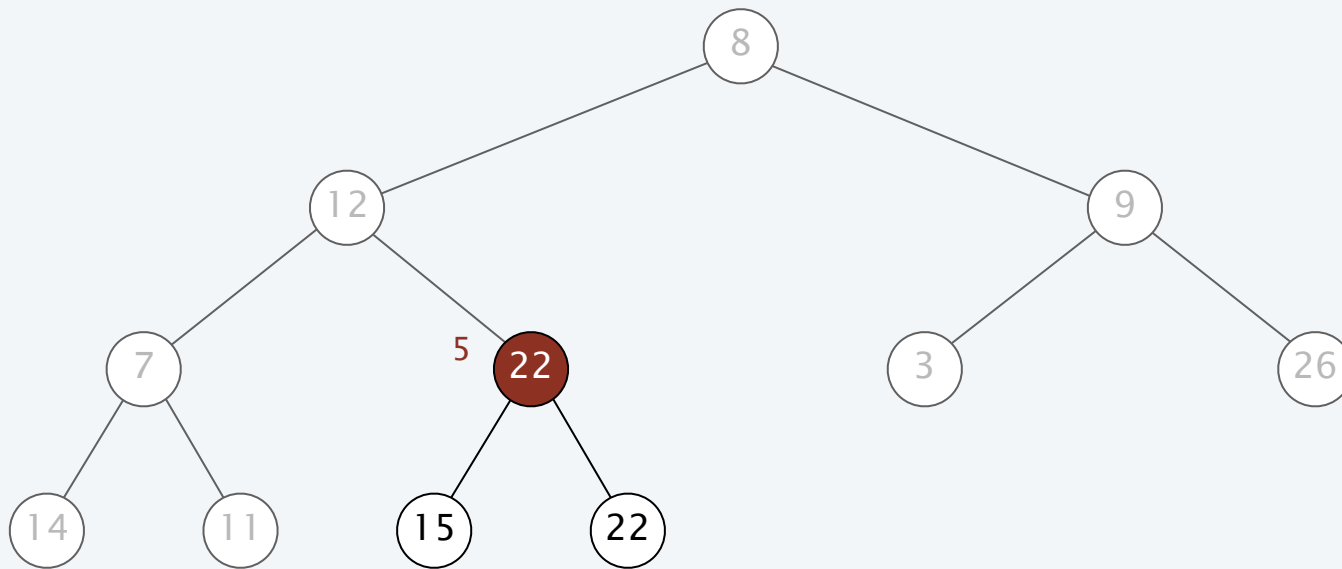


# Heapify demo

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**Heapify.** For each element in reverse-array order, sink it down.

**sink 5**

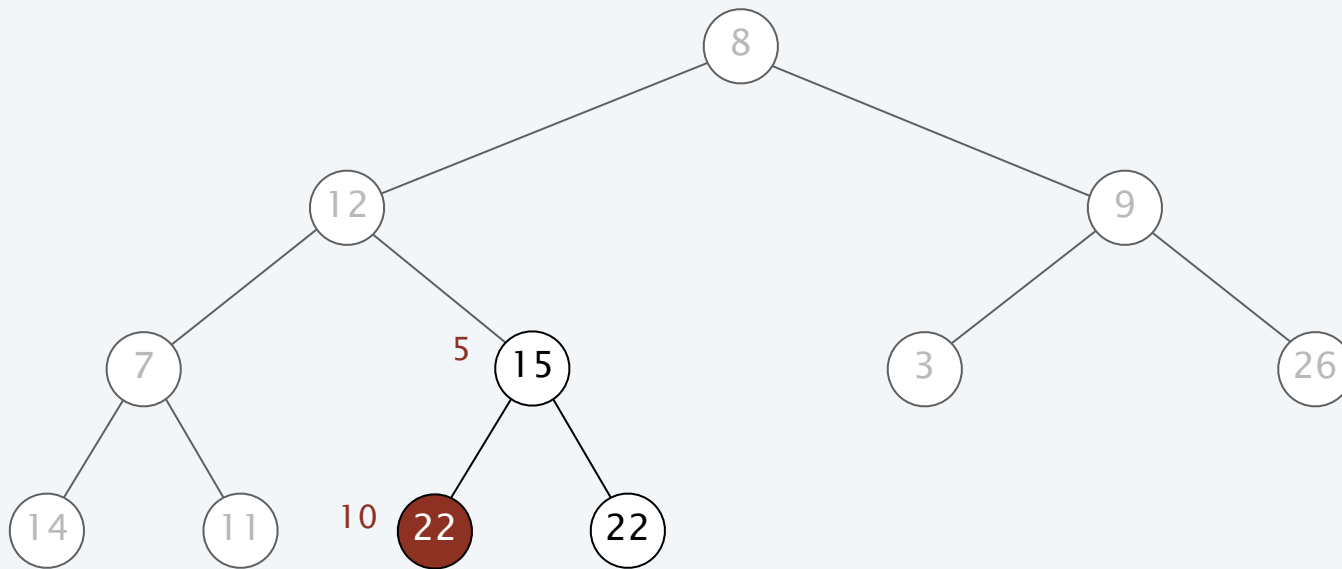


# Heapify demo

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**Heapify.** For each element in reverse-array order, sink it down.

**sink 5**



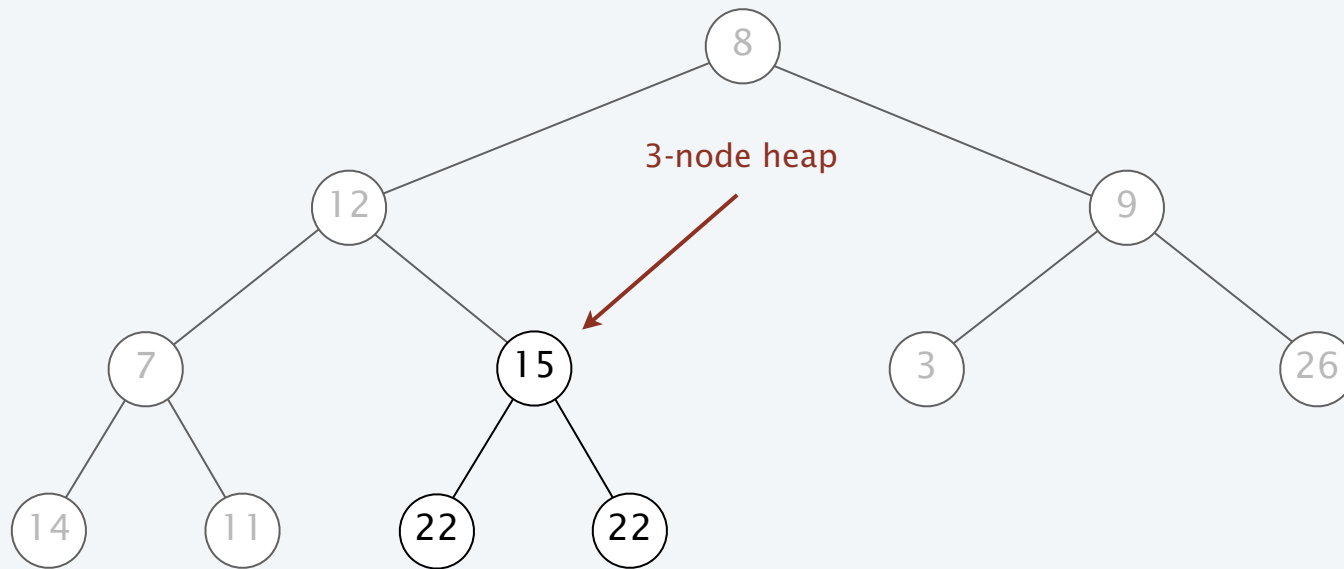
8	12	9	7	15	3	26	14	11	22	22
				5					10	

# Heapify demo

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**Heapify.** For each element in reverse-array order, sink it down.

**sink 5**



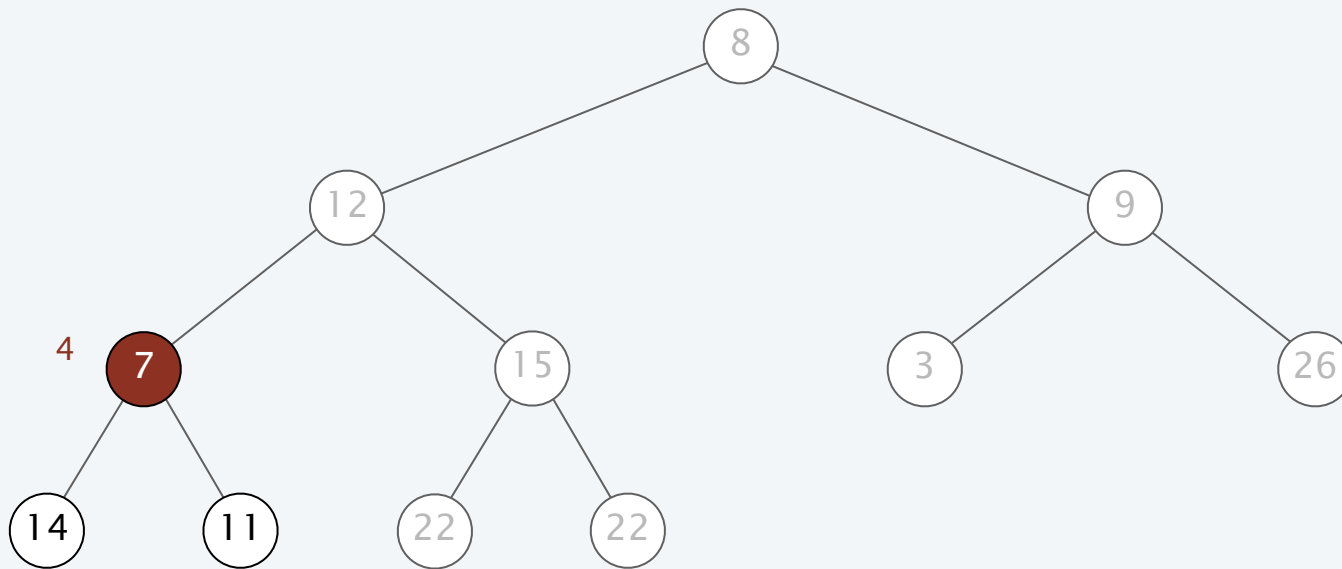
8	12	9	7	15	3	26	14	11	22	22
---	----	---	---	----	---	----	----	----	----	----

# Heapify demo

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**Heapify.** For each element in reverse-array order, sink it down.

**sink 4**



8	12	9	7	15	3	26	14	11	22	22
---	----	---	---	----	---	----	----	----	----	----

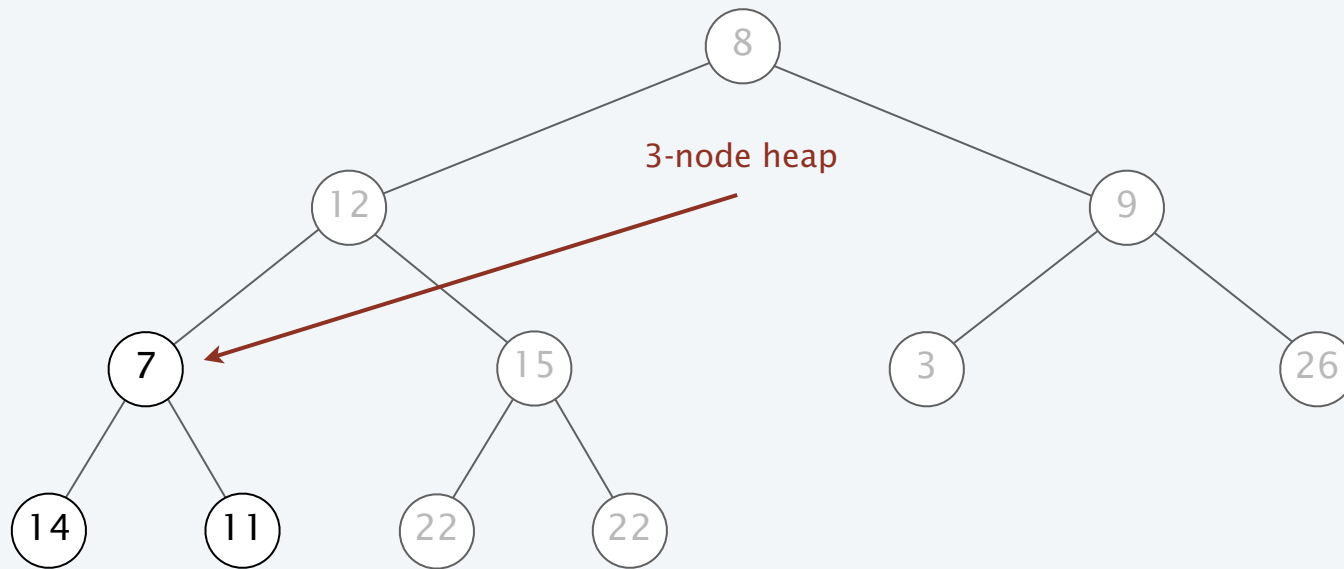
4

# Heapify demo

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**Heapify.** For each element in reverse-array order, sink it down.

**sink 4**



8	12	9	7	15	3	26	14	11	22	22
---	----	---	---	----	---	----	----	----	----	----

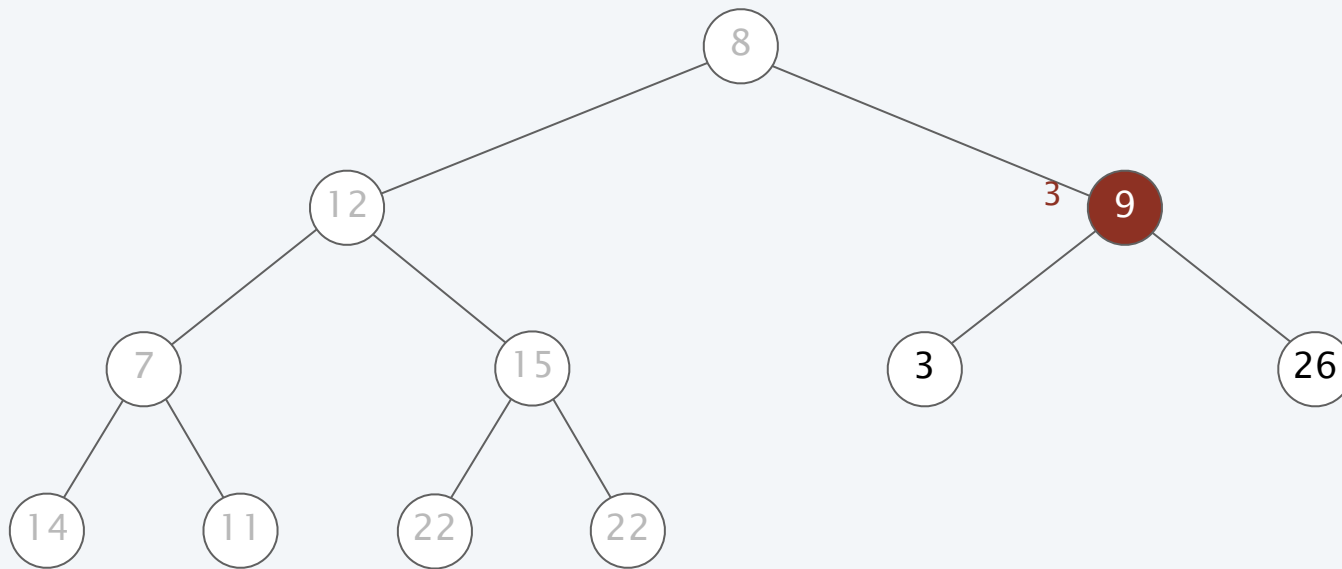


# Heapify demo

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**Heapify.** For each element in reverse-array order, sink it down.

**sink 3**



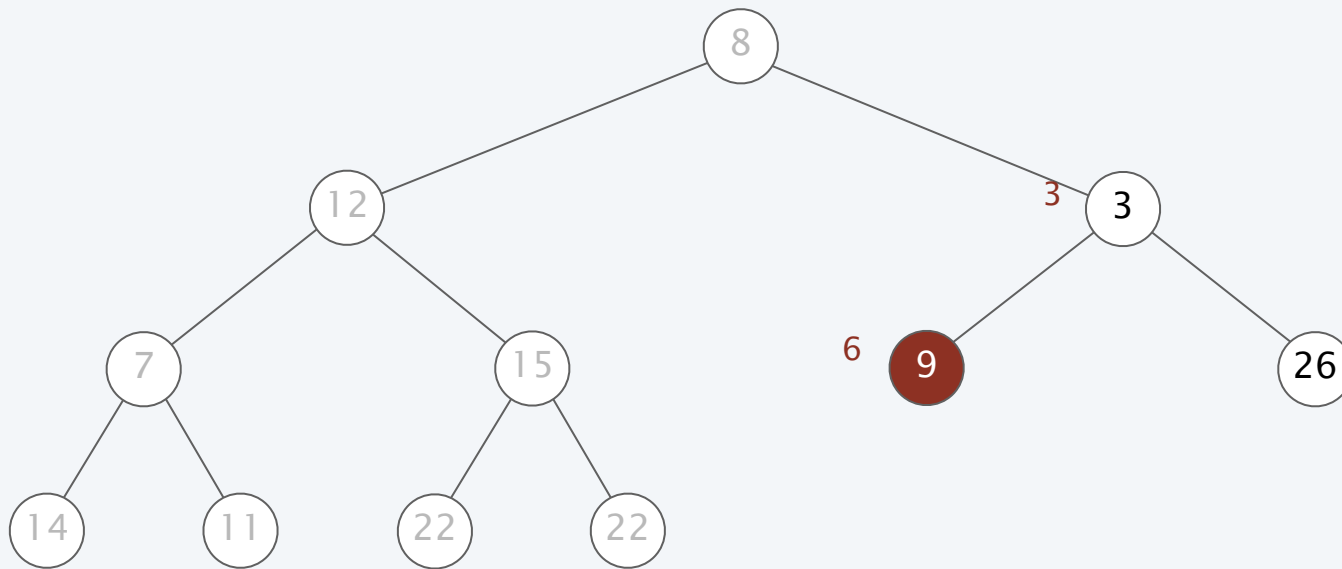
8	12	9	7	15	3	26	14	11	22	22
		3								

# Heapify demo

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**Heapify.** For each element in reverse-array order, sink it down.

**sink 3**



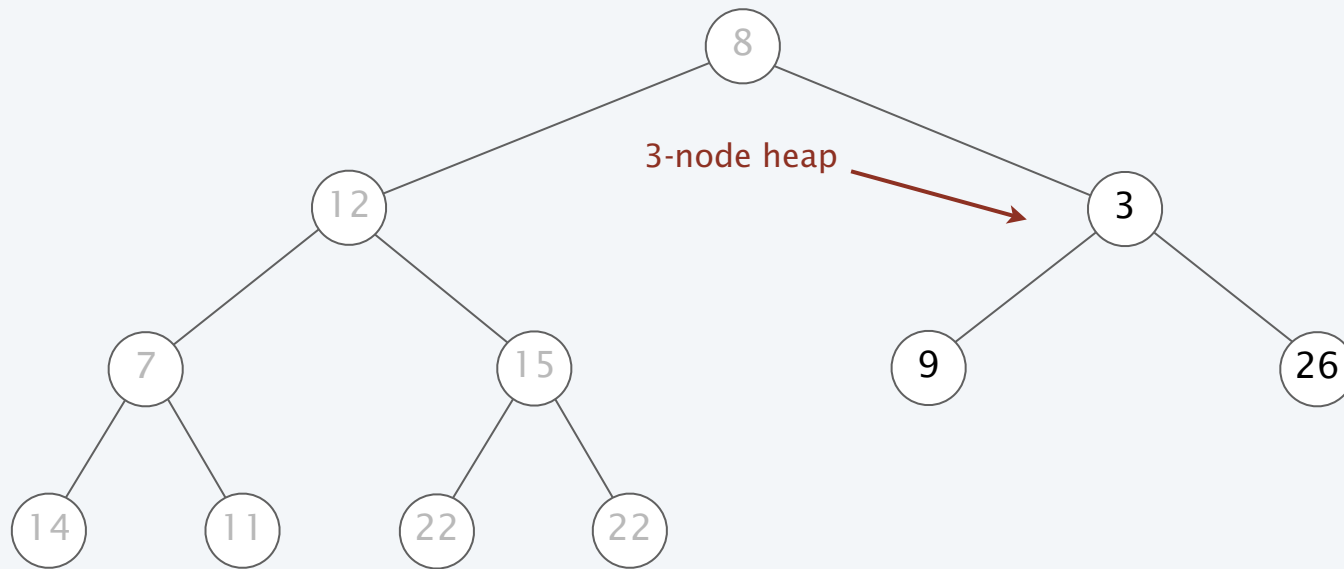
8	12	3	7	15	9	26	14	11	22	22
		3			6					

# Heapify demo

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**Heapify.** For each element in reverse-array order, sink it down.

**sink 3**



8	12	3	7	15	26	26	14	11	22	22
---	----	---	---	----	----	----	----	----	----	----

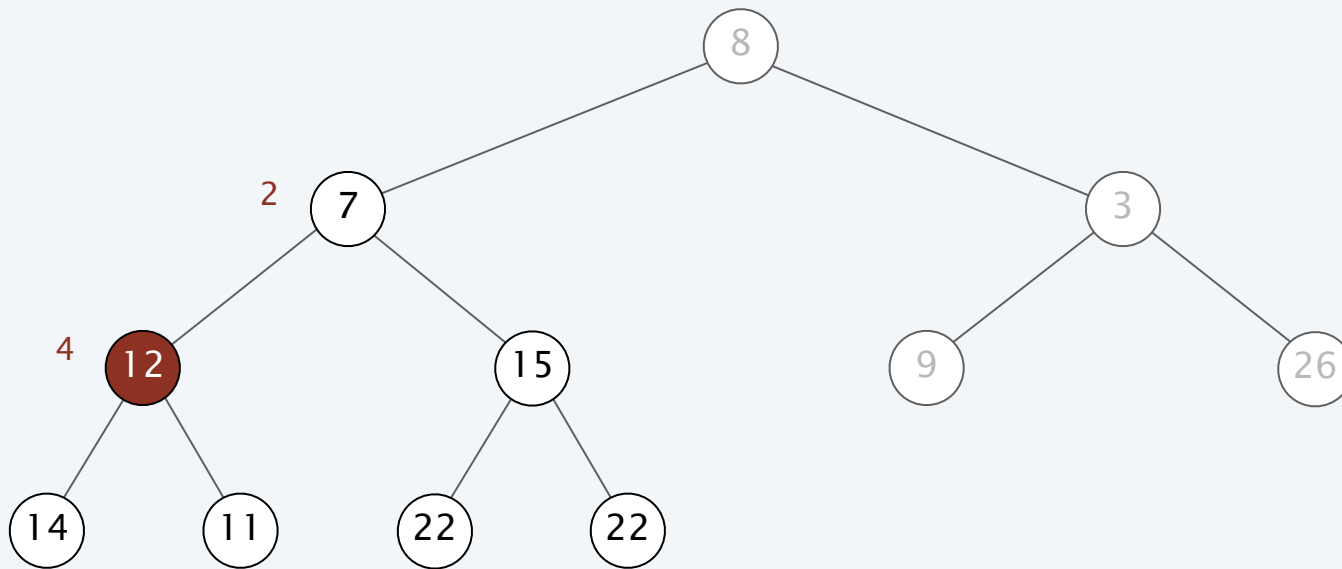


# Heapify demo

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**Heapify.** For each element in reverse-array order, sink it down.

**sink 2**



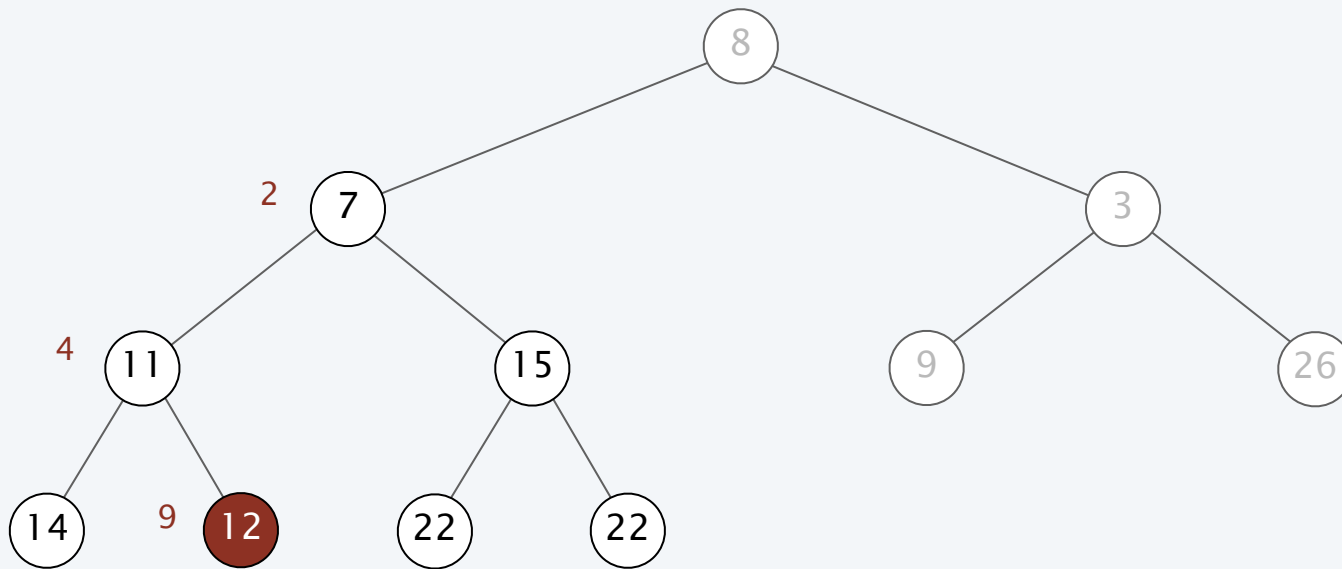
8	7	3	12	15	9	26	14	11	22	22
	2		4							

# Heapify demo

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**Heapify.** For each element in reverse-array order, sink it down.

**sink 2**



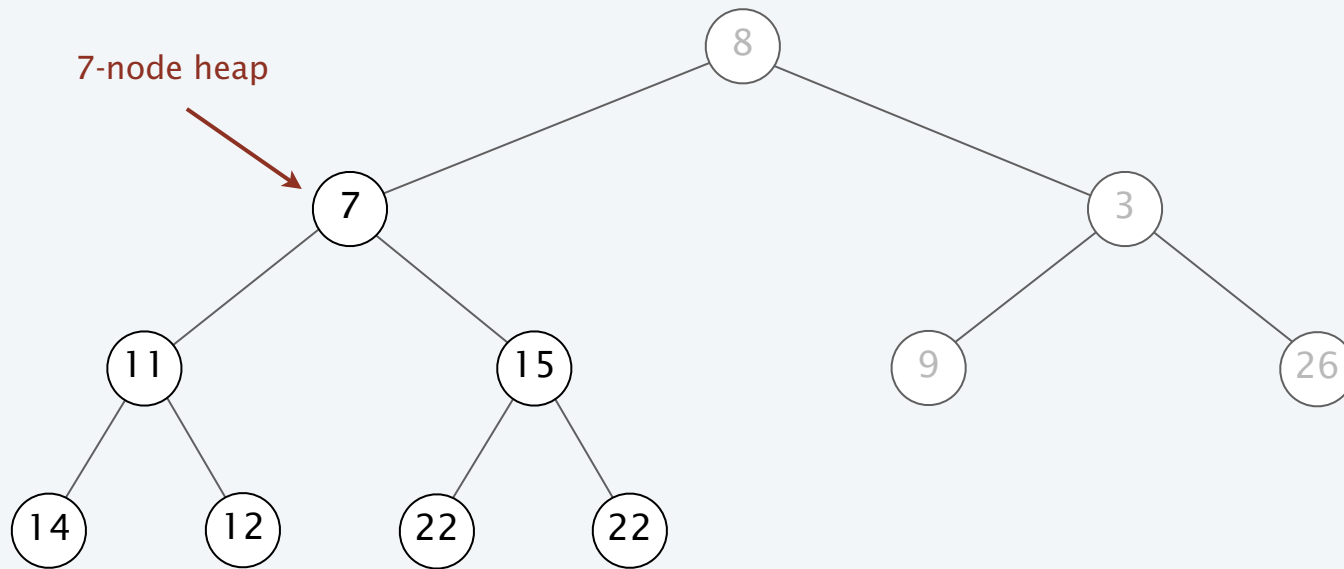
8	7	3	11	15	9	26	14	12	22	22
	2		4					9		

# Heapify demo

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**Heapify.** For each element in reverse-array order, sink it down.

**sink 2**

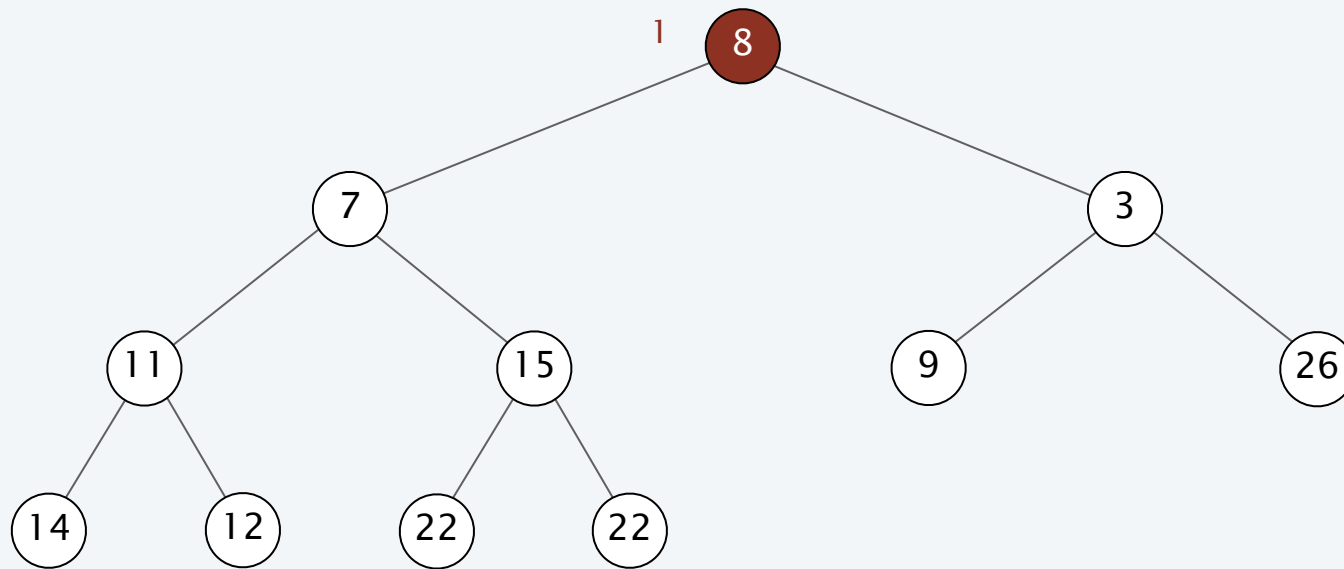


8	7	3	11	15	9	26	14	12	22	22
---	---	---	----	----	---	----	----	----	----	----

## Heapify demo

**Heapify.** For each element in reverse-array order, sink it down.

## sink 1



8	7	3	11	15	9	26	14	12	22	22
---	---	---	----	----	---	----	----	----	----	----

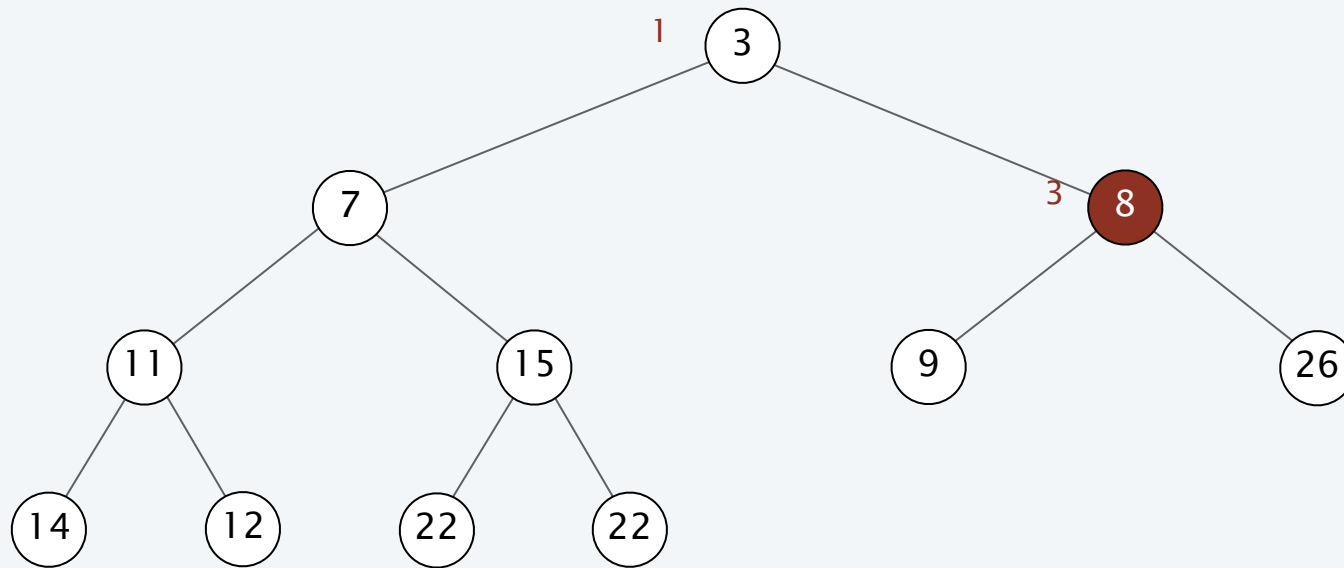


# Heapify demo

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**Heapify.** For each element in reverse-array order, sink it down.

**sink 1**



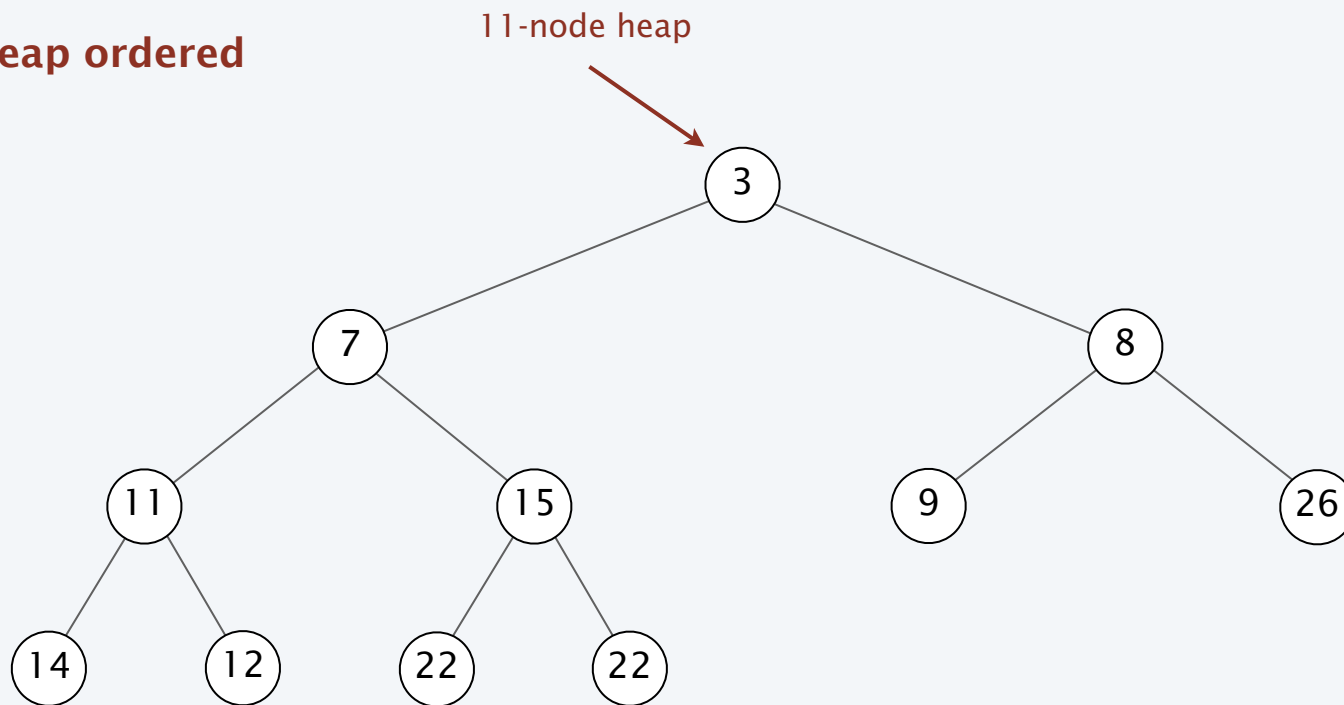
3	7	8	11	15	9	26	14	12	22	22
1		3								

# Heapify demo

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**Heapify.** For each element in reverse-array order, sink it down.

array is heap ordered



3	7	8	11	15	9	26	14	12	22	22
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