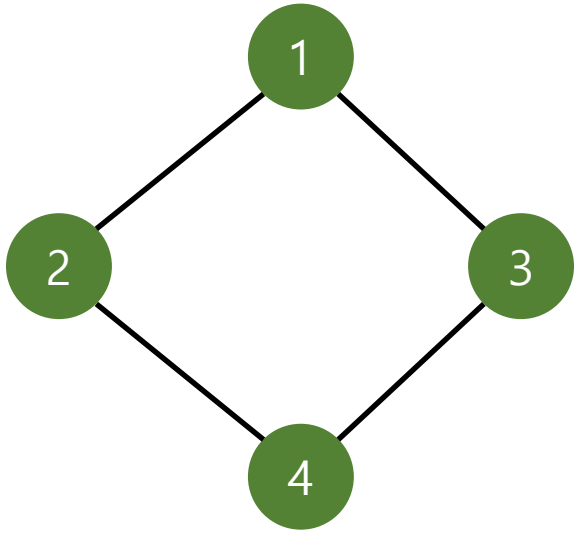
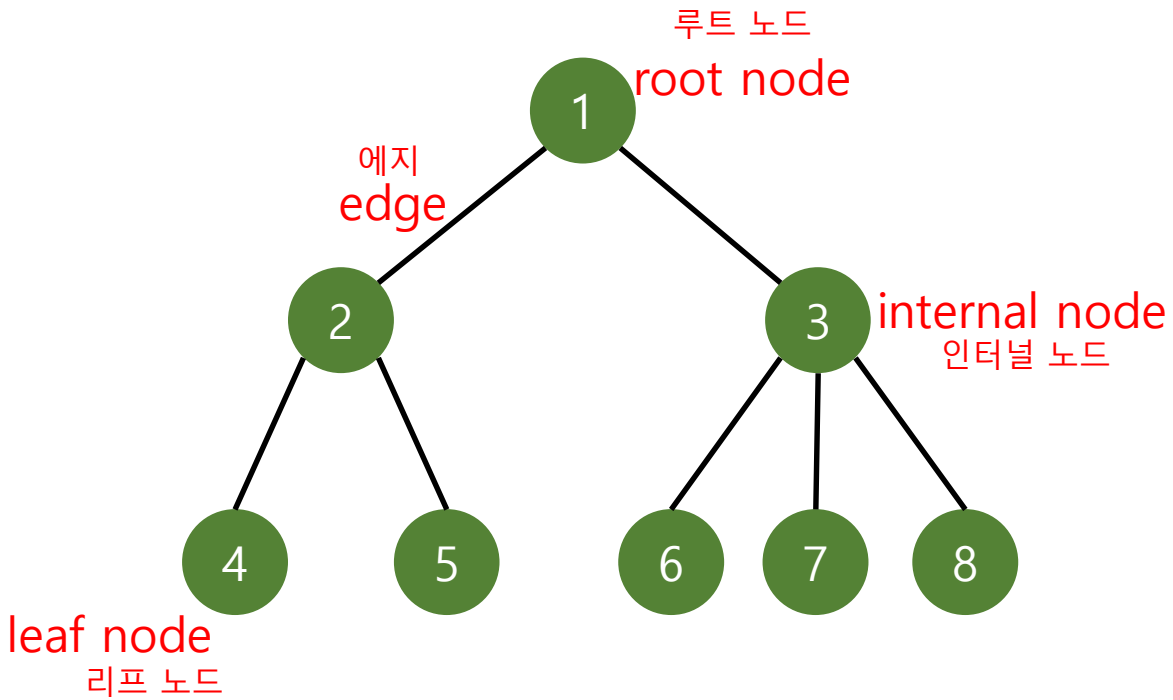
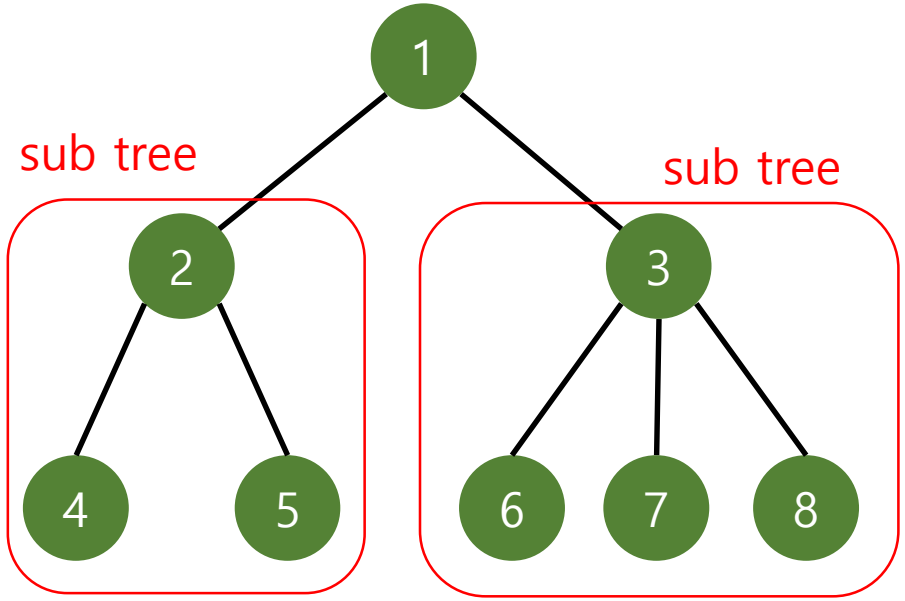
Data structure

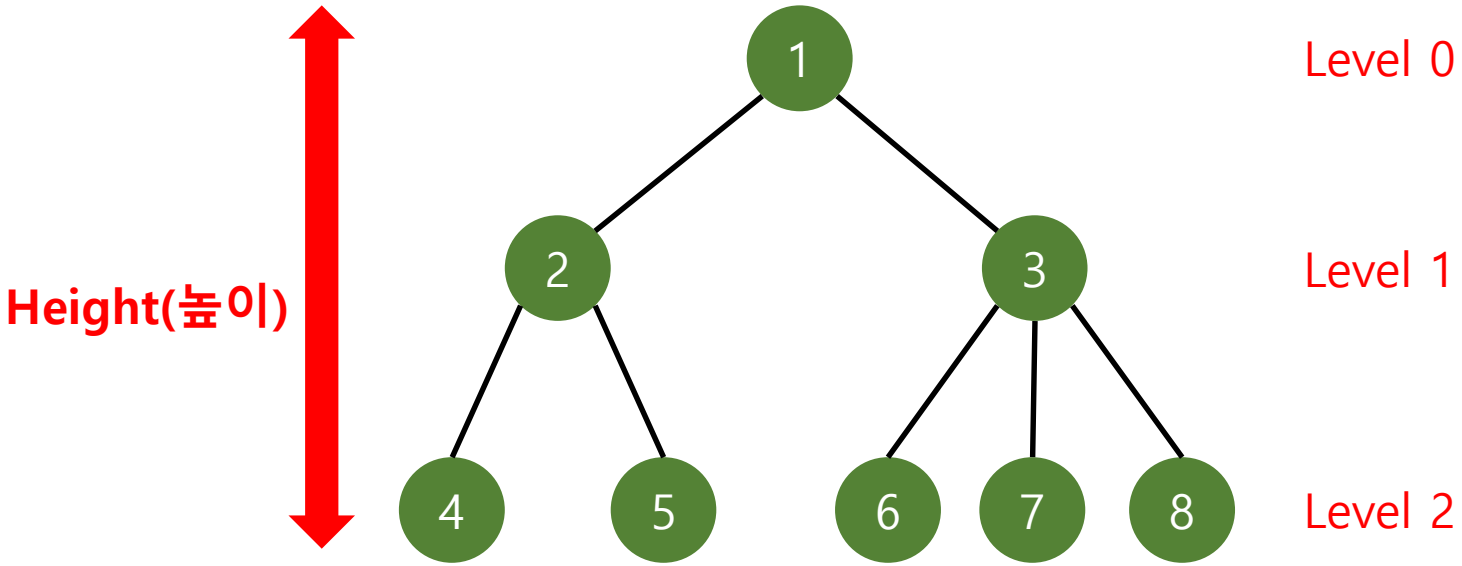
Binary Search Tree

사이클

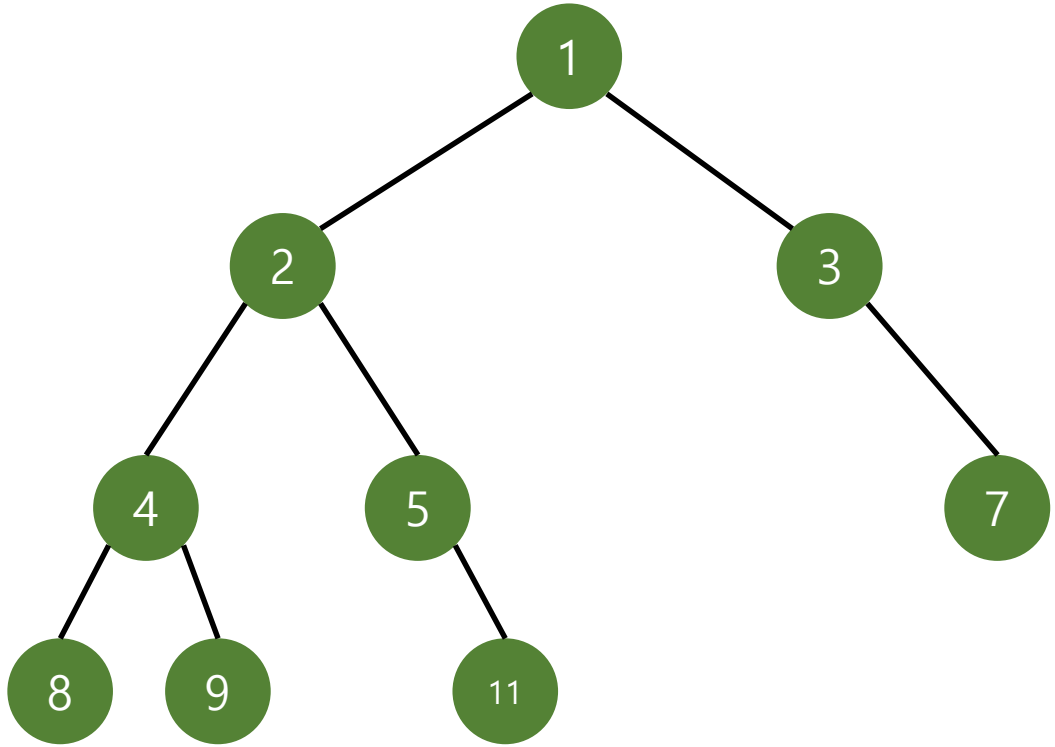



루트 노드
root node
1
에지
edge
2
3
internal node
인터널 노드
4
5
6
7
8
leaf node
리프 노드

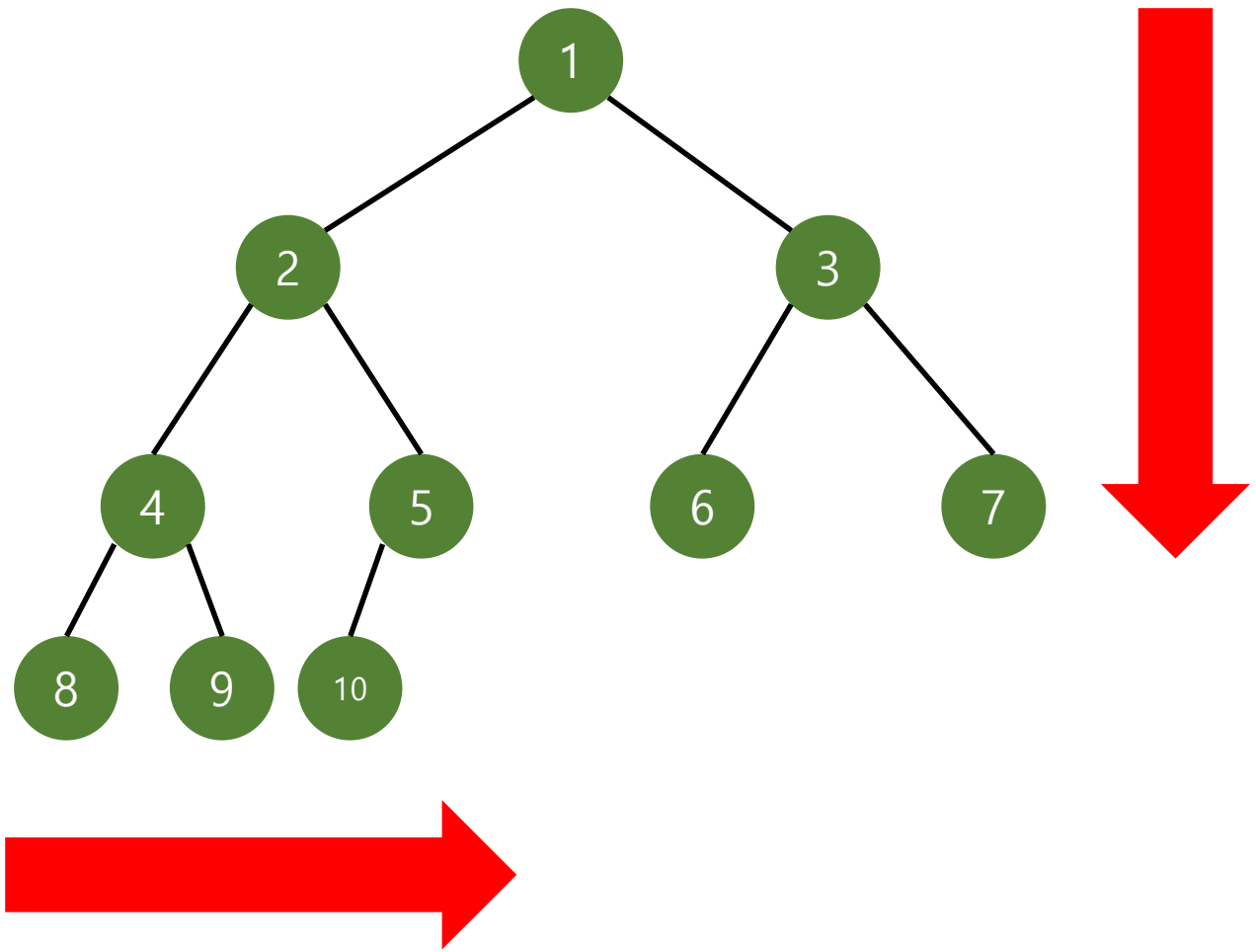

1
sub tree
sub tree
2
3
4
5
6
7
8


Height(높이)
1
2
3
4
5
6
7
8
Level 0
Level 1
Level 2

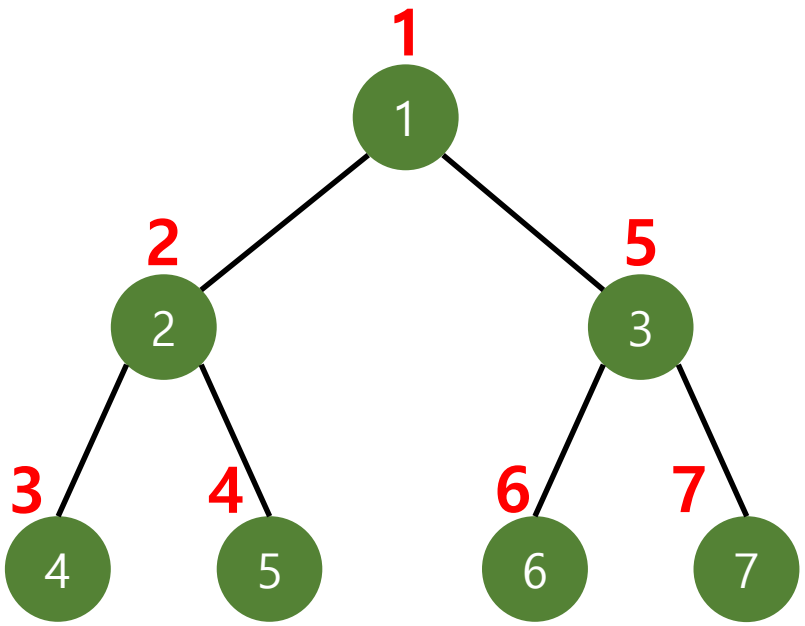
이진 트리
: 자식 노드가 최대 2개



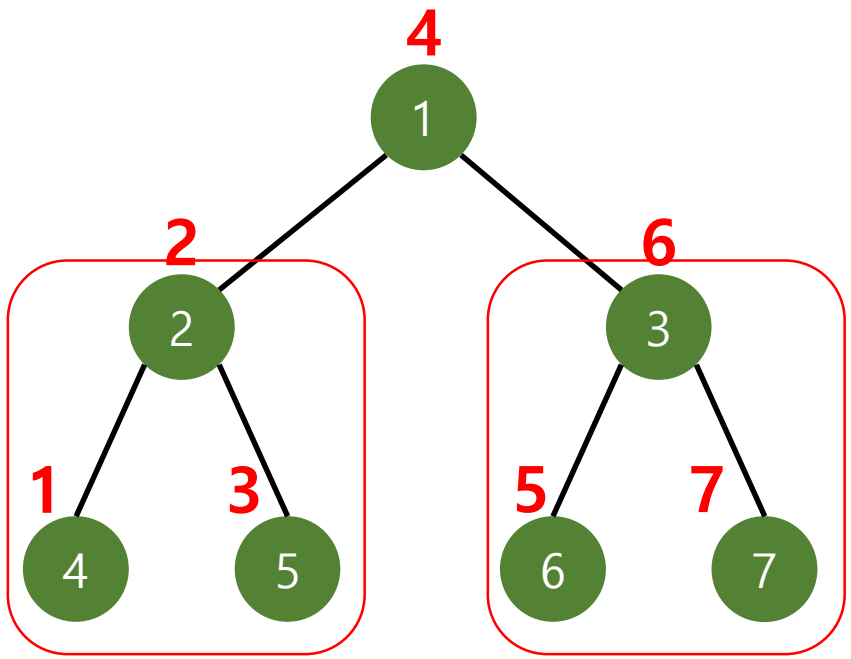
완전 이진 트리



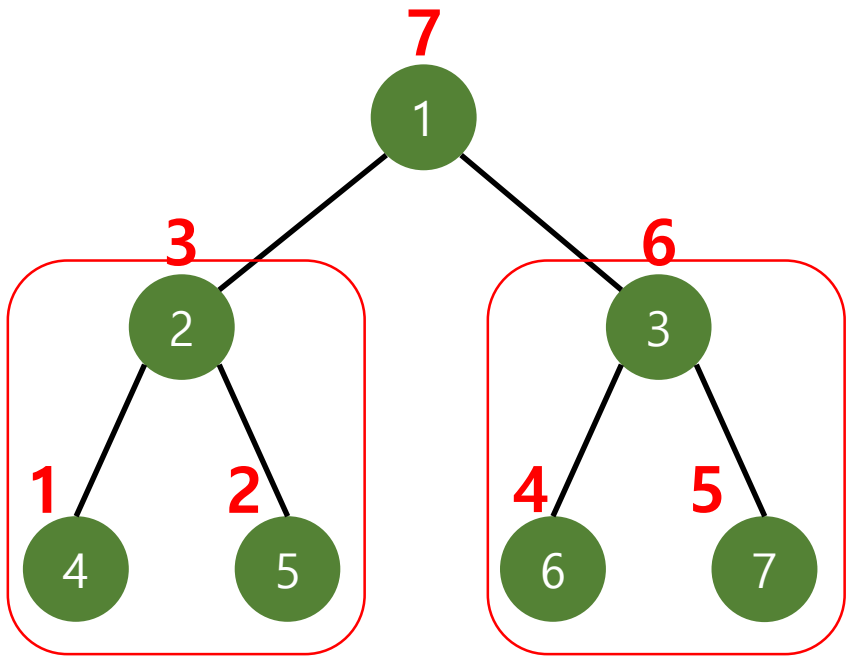
전위 순회



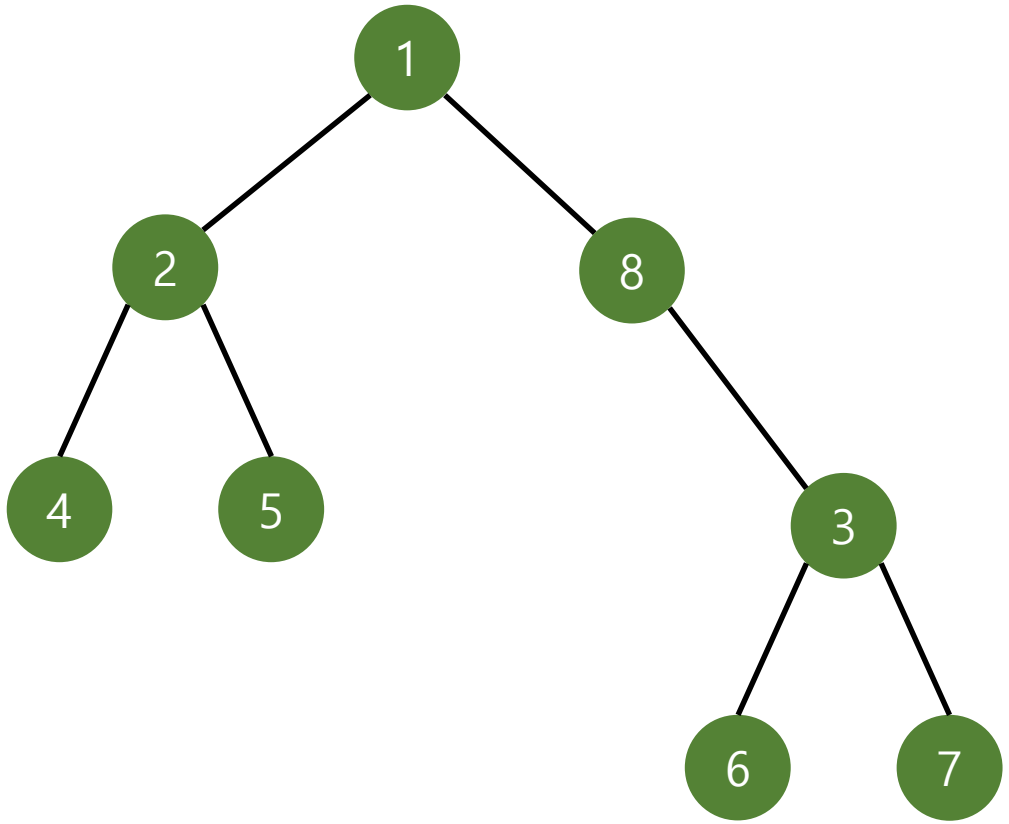
중위 순회



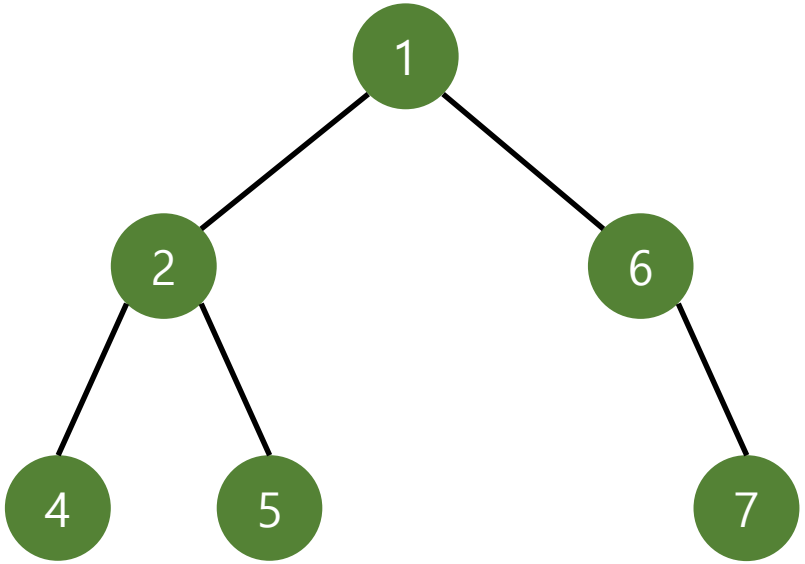
후위 순회



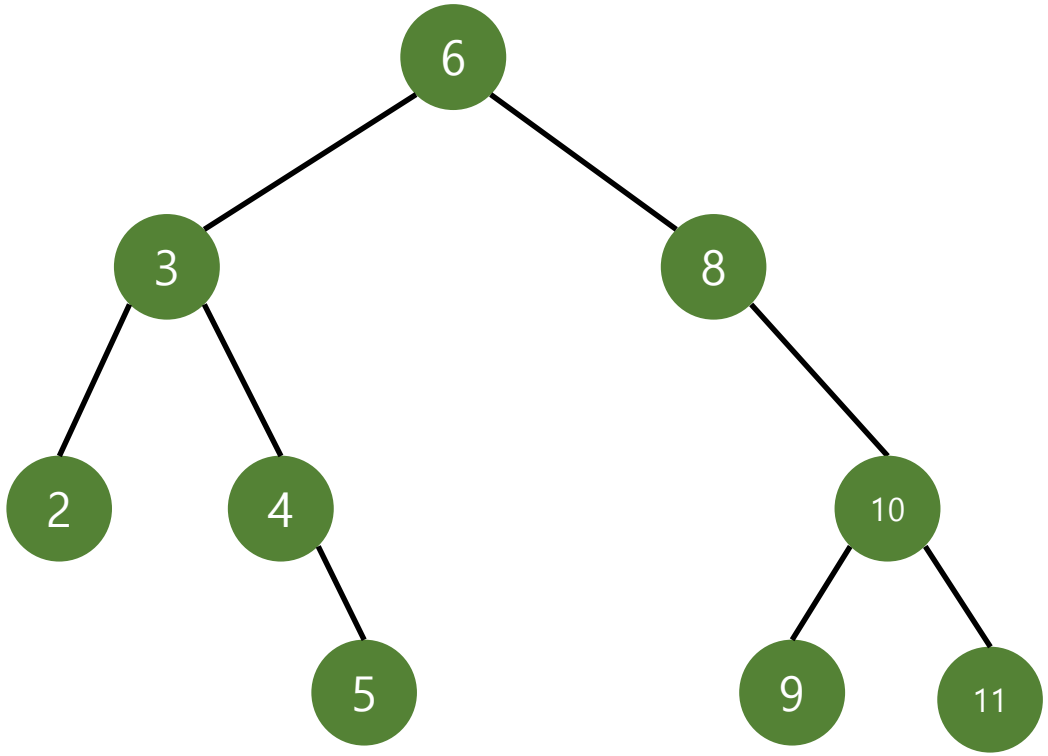
노드 삽입

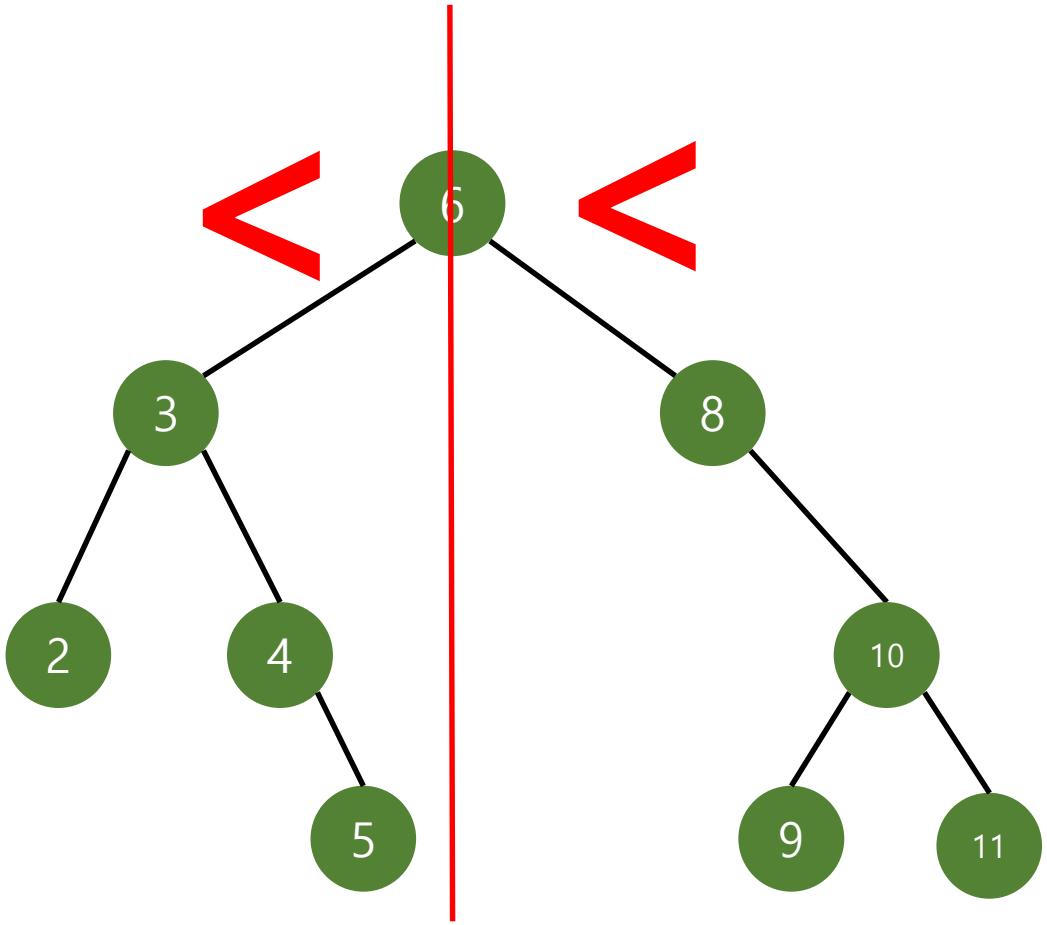


노드 삭제



BST




6
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<
3
8
2
4
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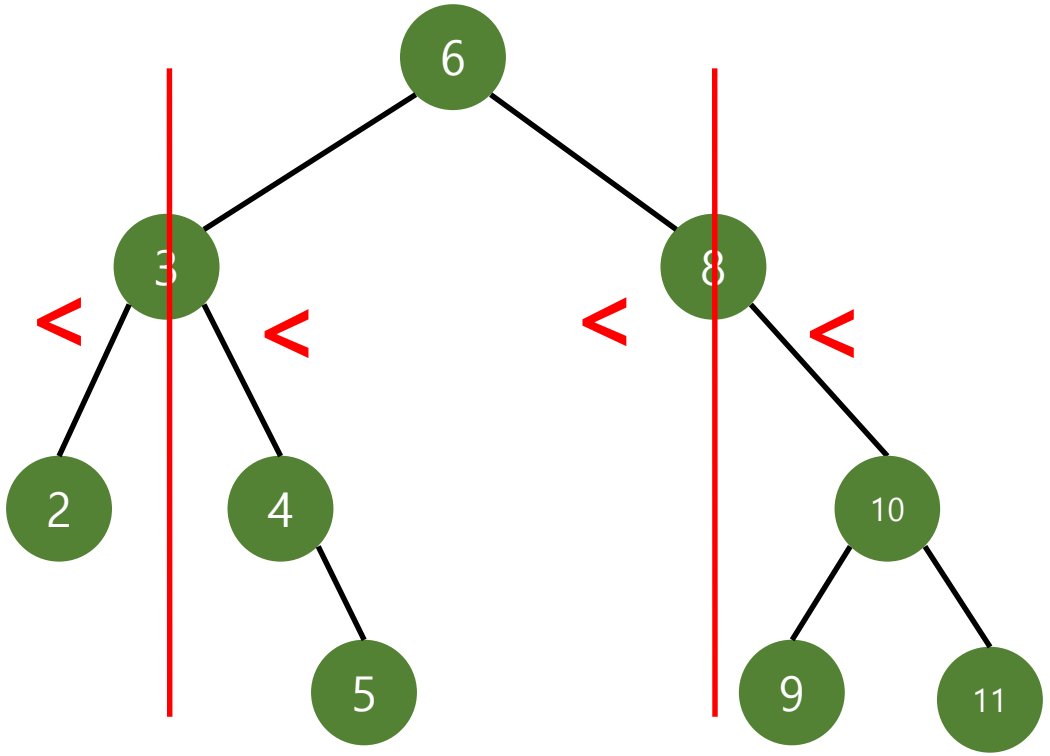
9
11


6
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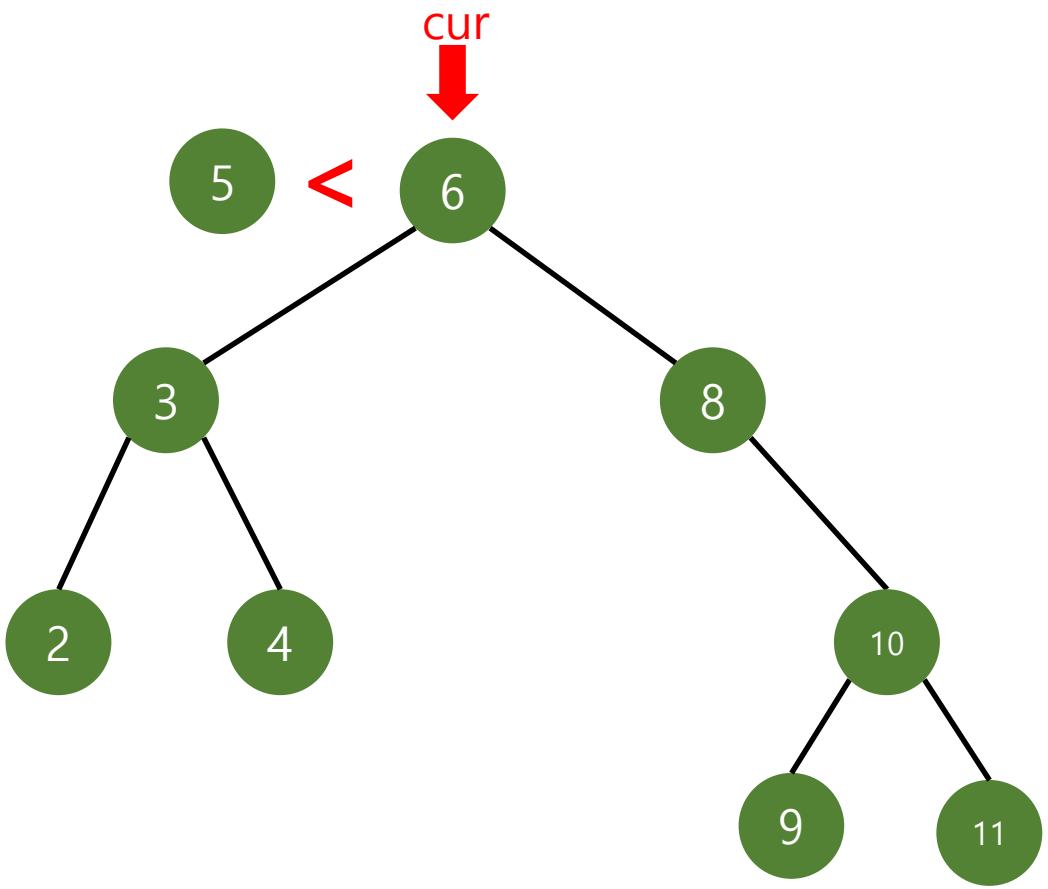
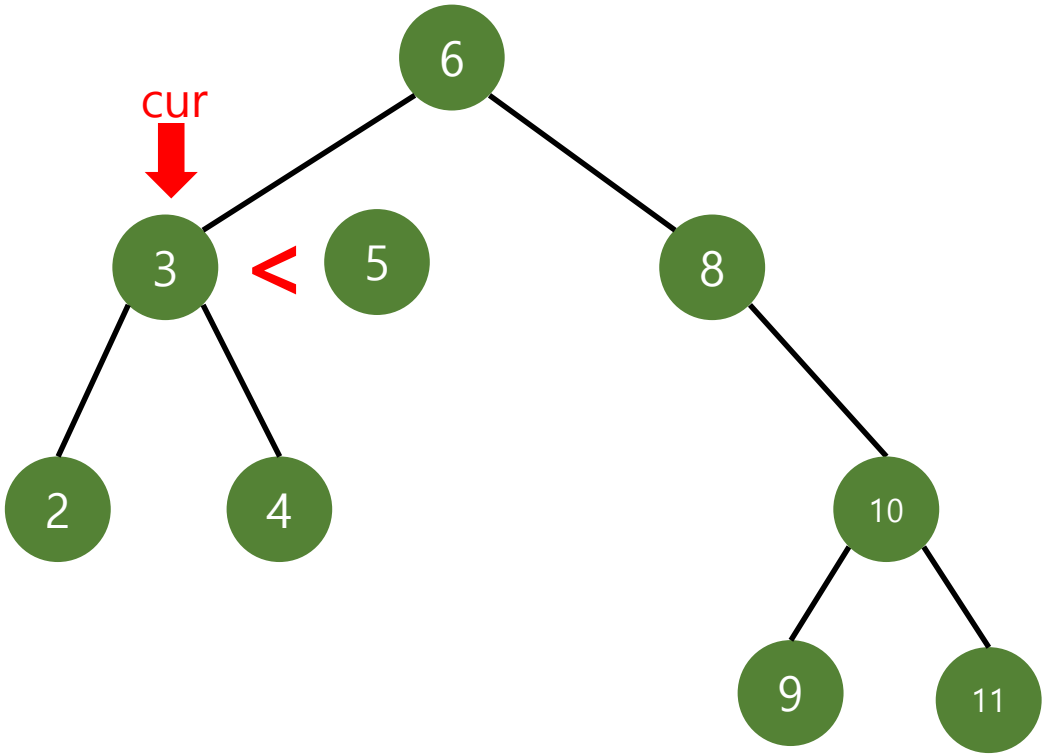
9
11

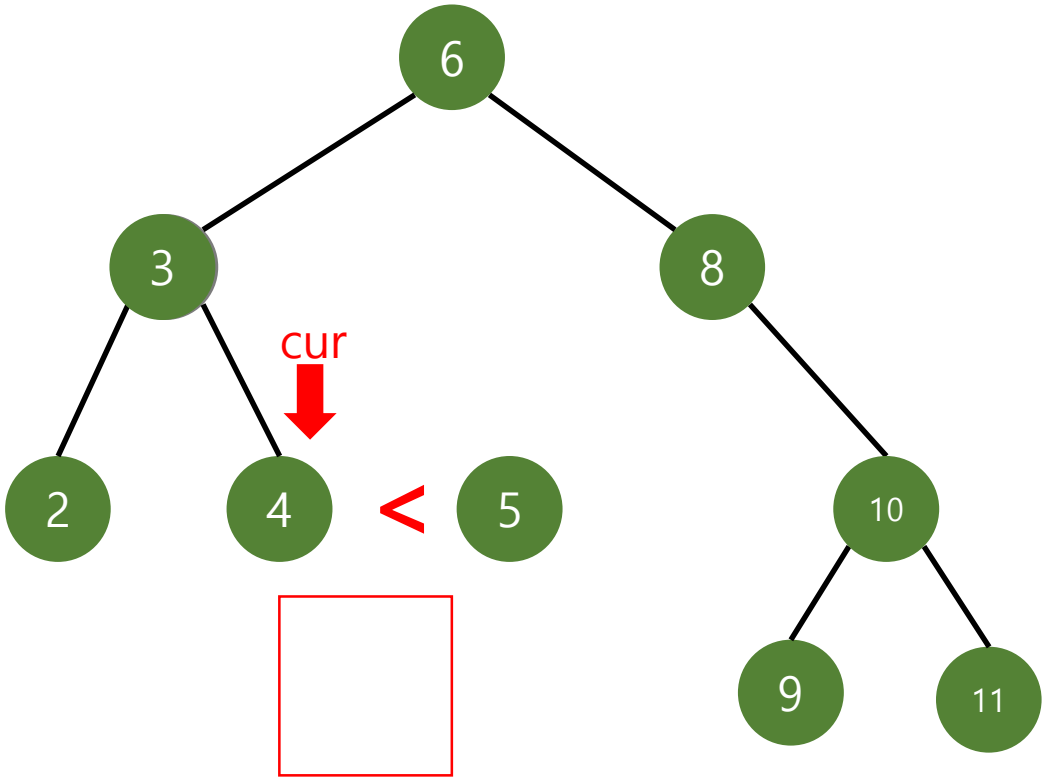
Insert - 1



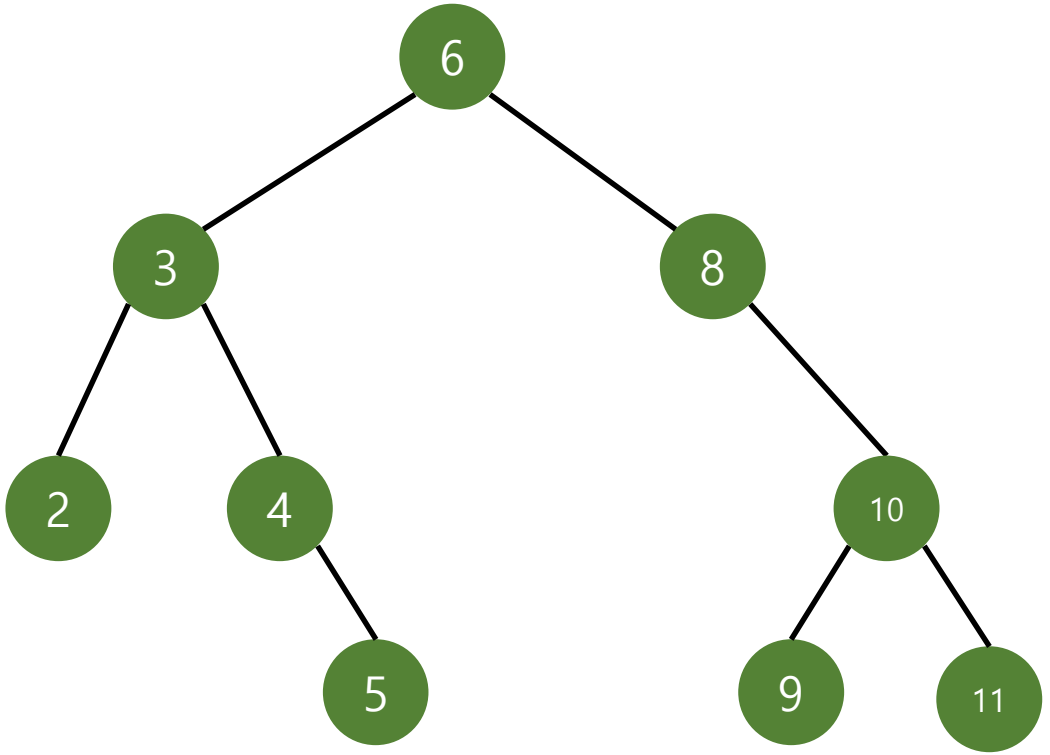
Insert - 2



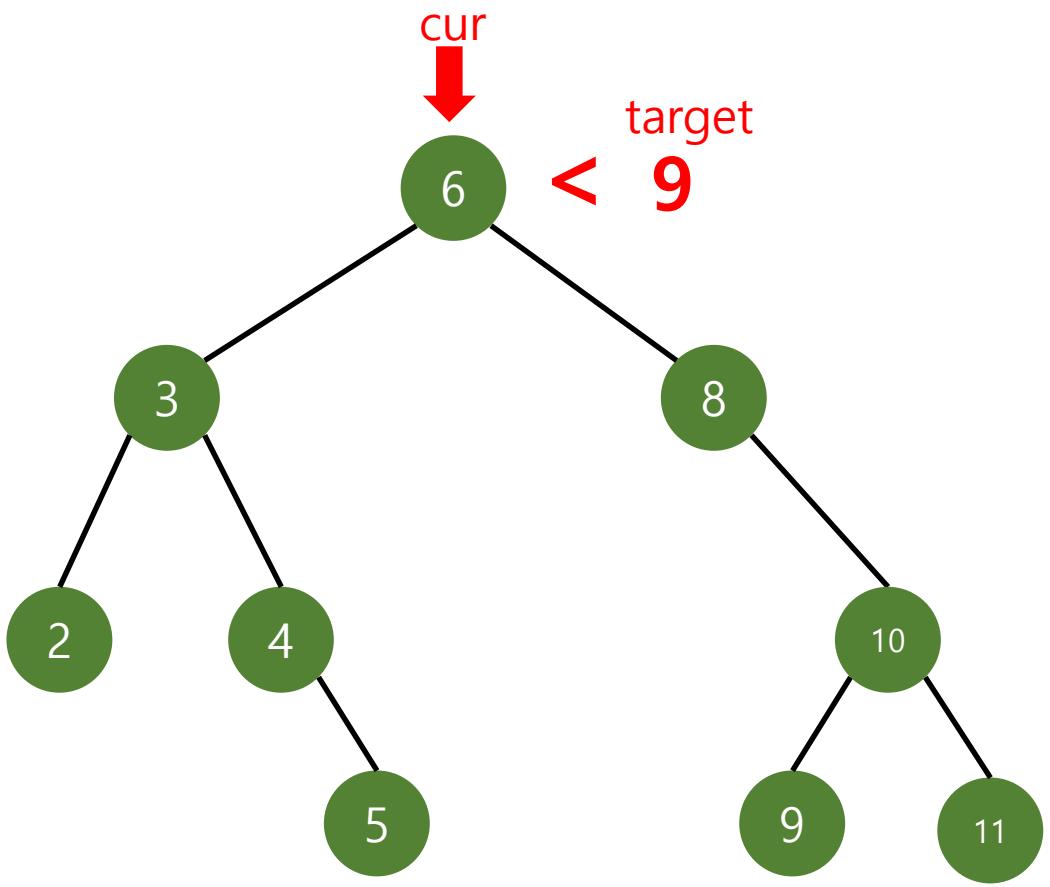
Insert - 3



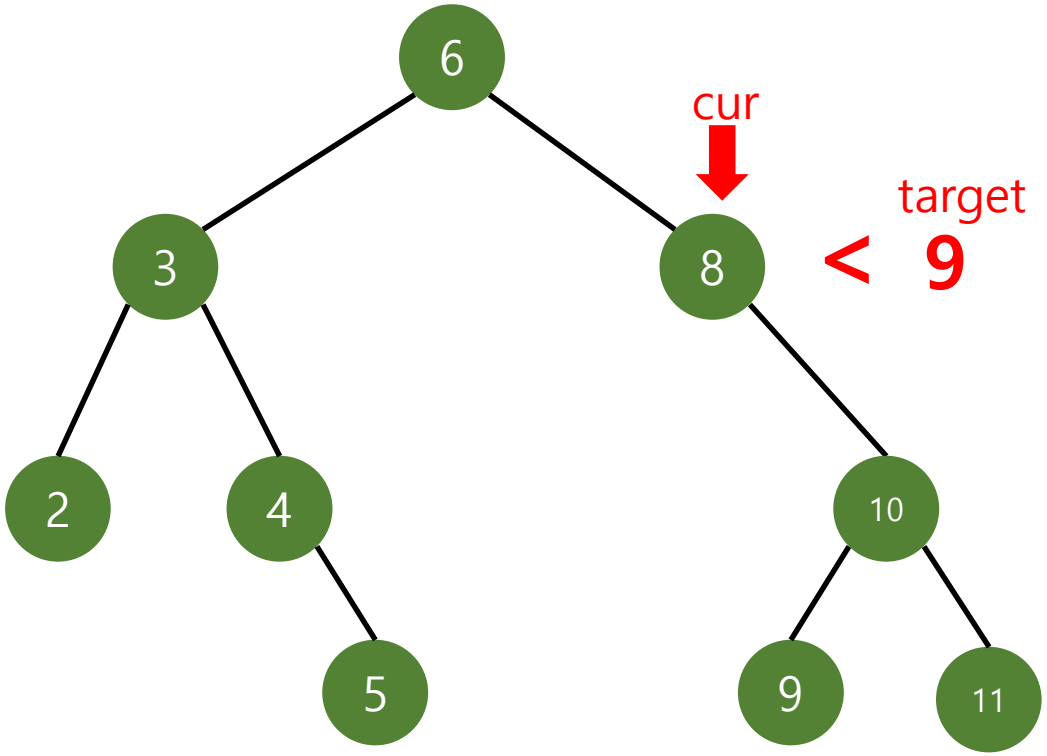
Insert - 4



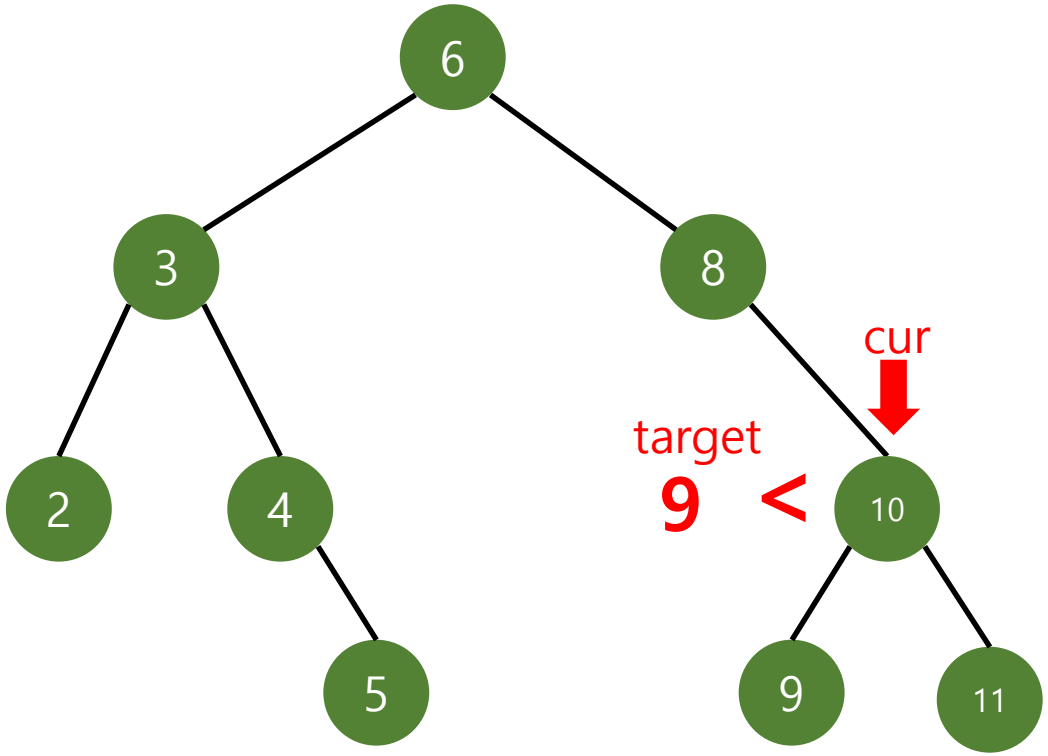
search - 1



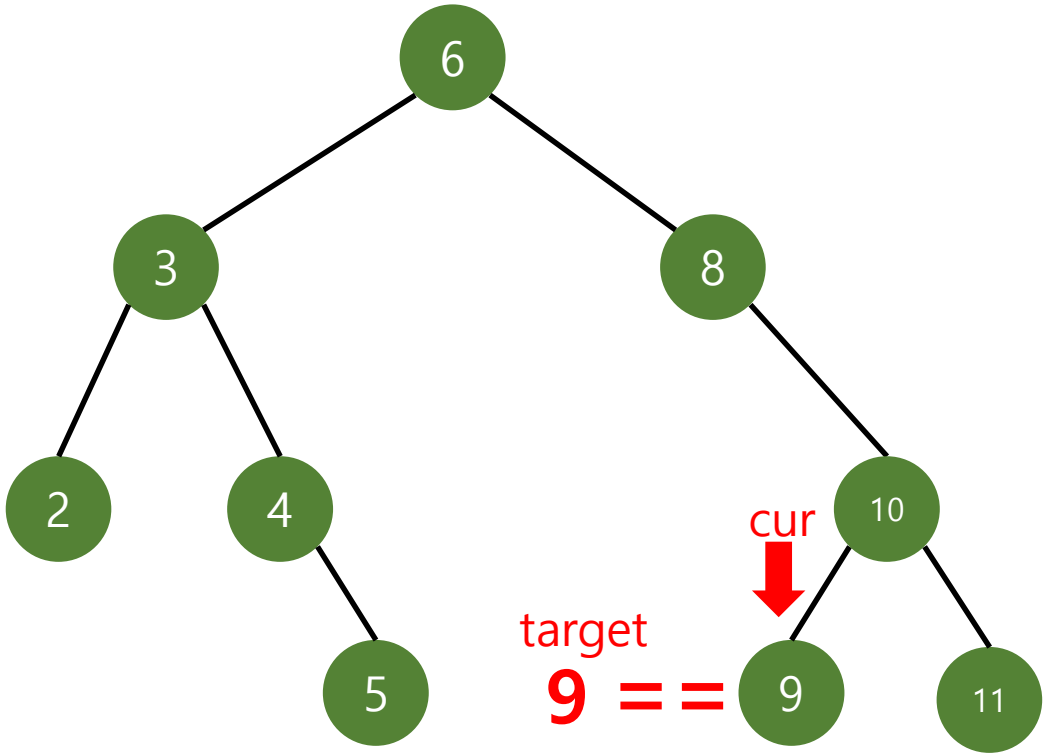
search - 2



search - 3



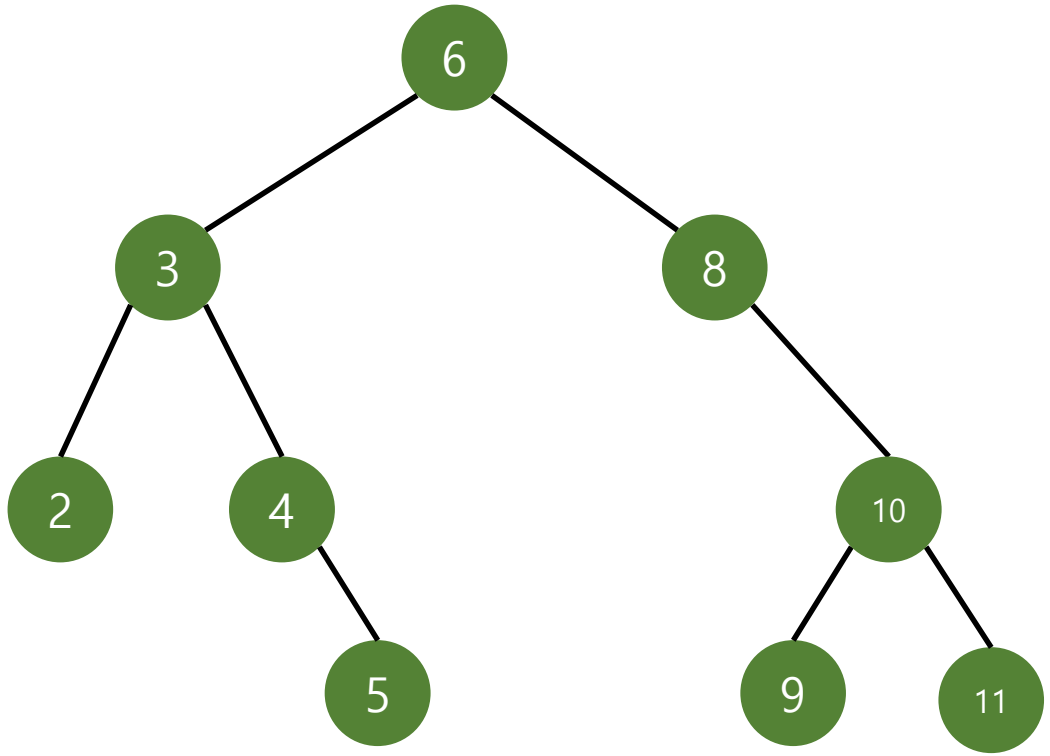
search - 4



remove

노드를 지울 때 3가지 상황

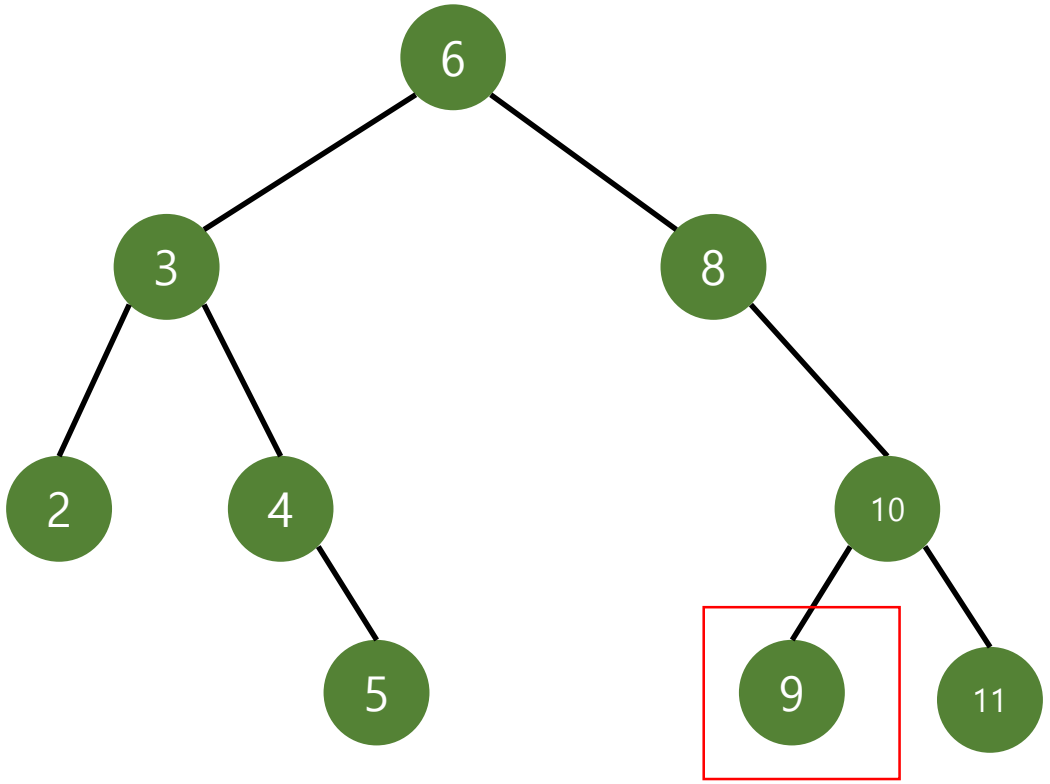
1. 지울 노드가 단말 노드
2. 자식 노드가 하나일 때
3. 자식 노드가 둘일 때



remove

노드를 지울 때 3가지 상황

1. 지울 노드가 단말 노드
2. 자식 노드가 하나일 때
3. 자식 노드가 둘일 때



remove

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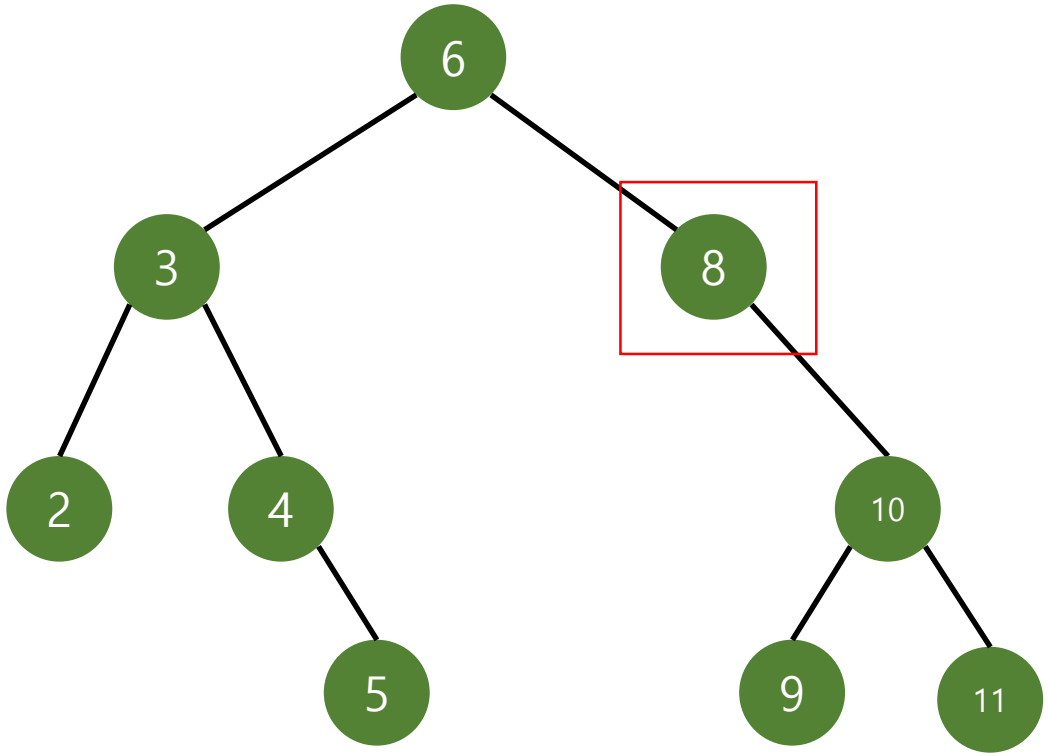
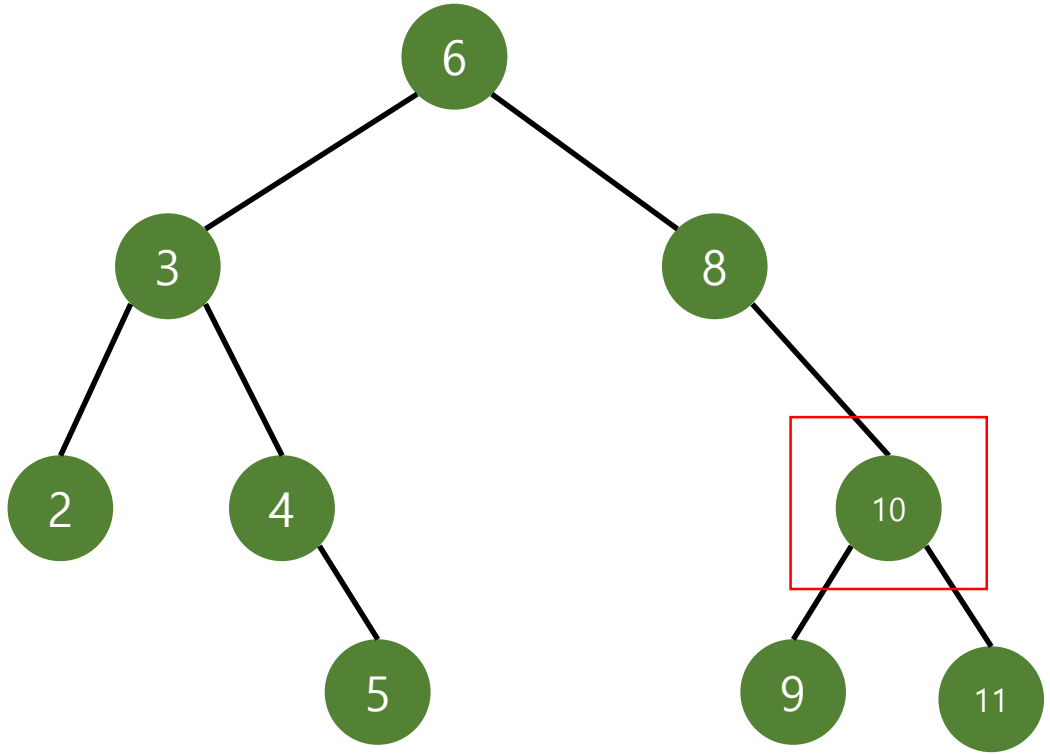
3. 자식 노드가 둘일 때



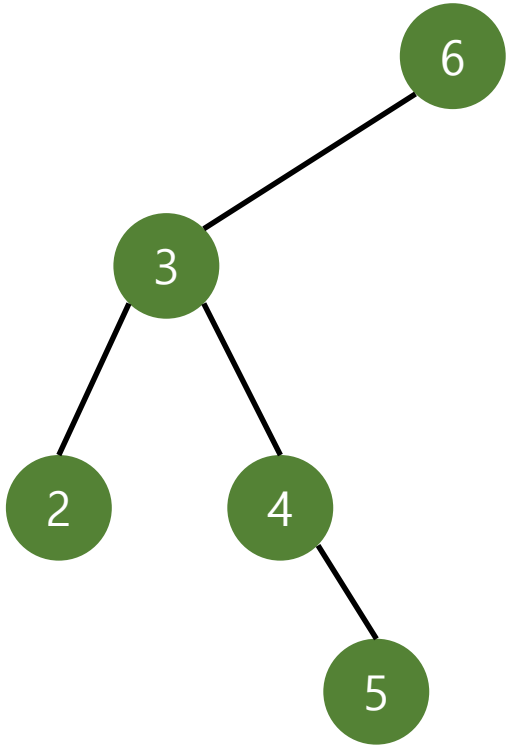
remove

노드를 지울 때 3가지 상황

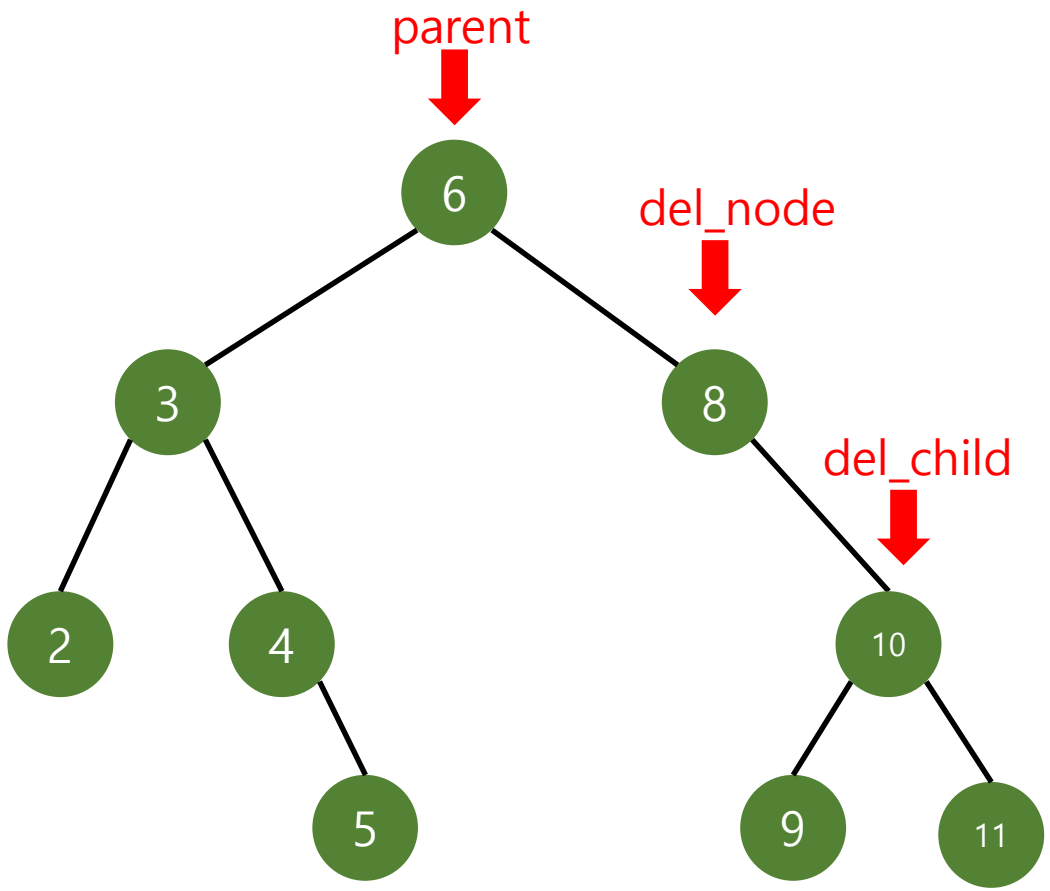
1. 지울 노드가 단말 노드
2. 자식 노드가 하나일 때
3. 자식 노드가 둘일 때



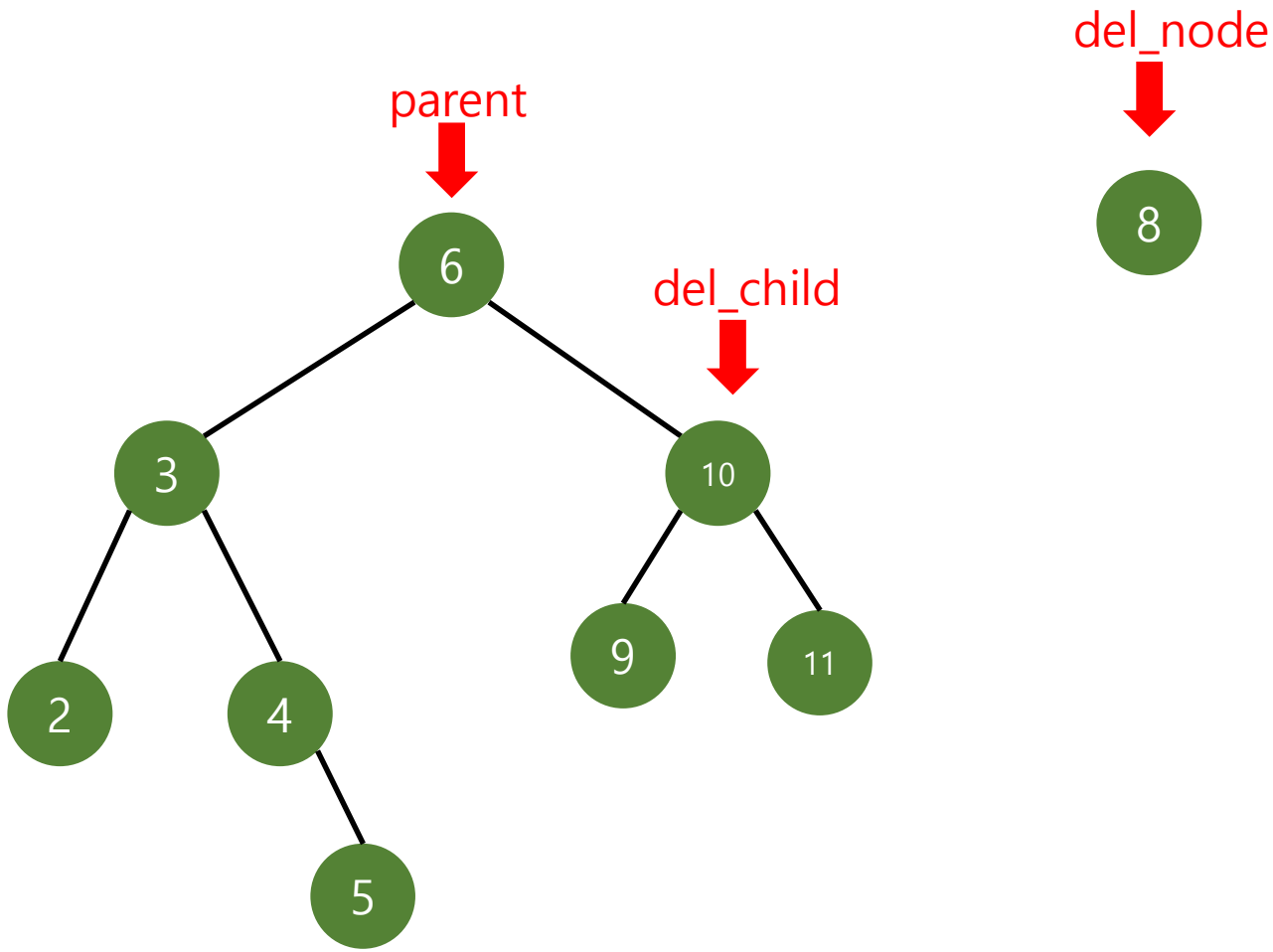
삭제 노드가 자식 노드가 하나인
루트 노드일 때



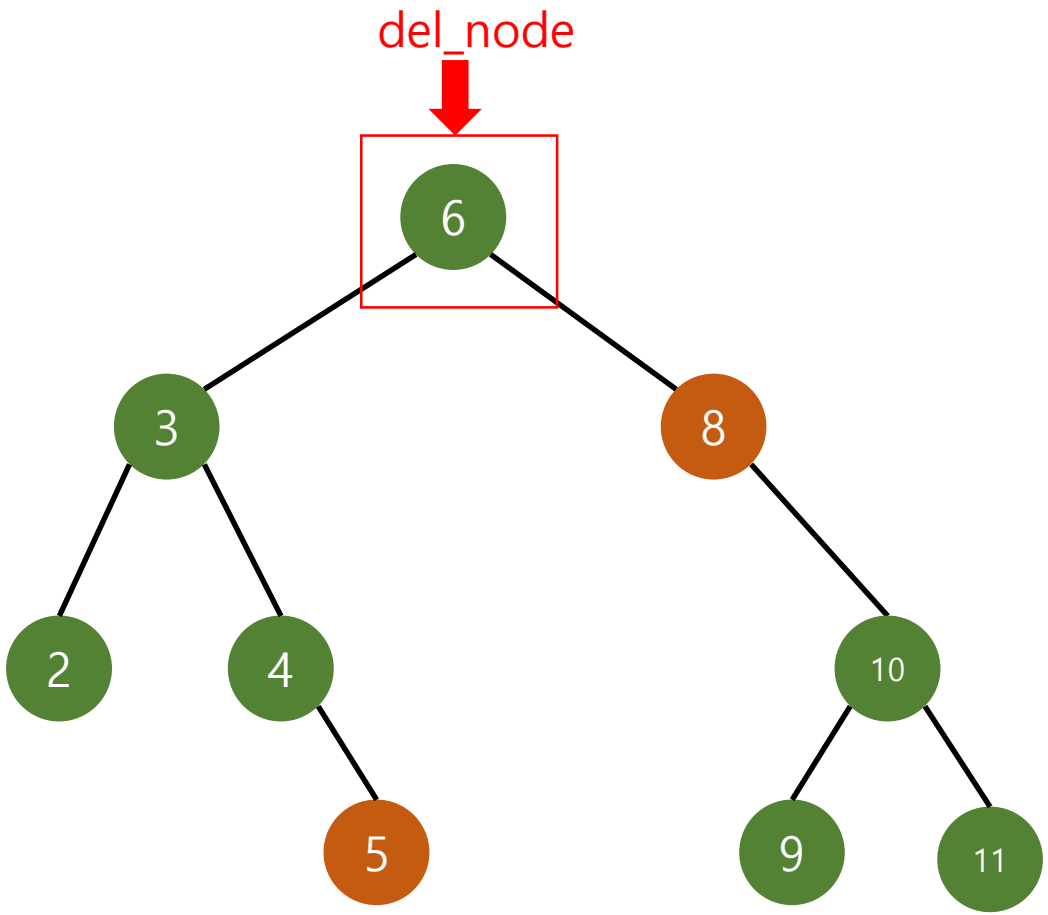
자식 노드가 하나일 때

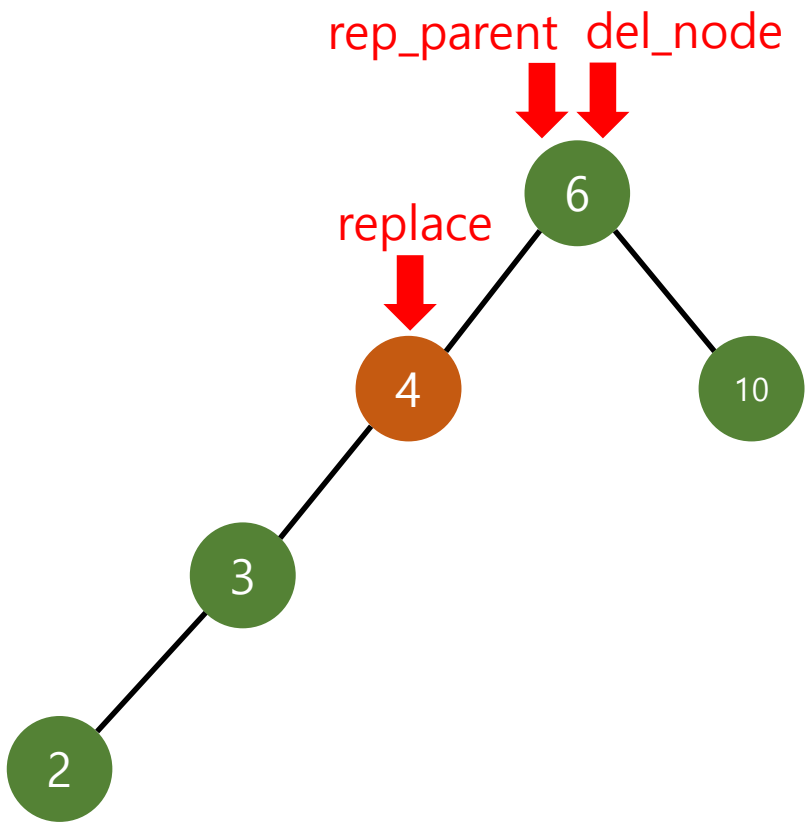


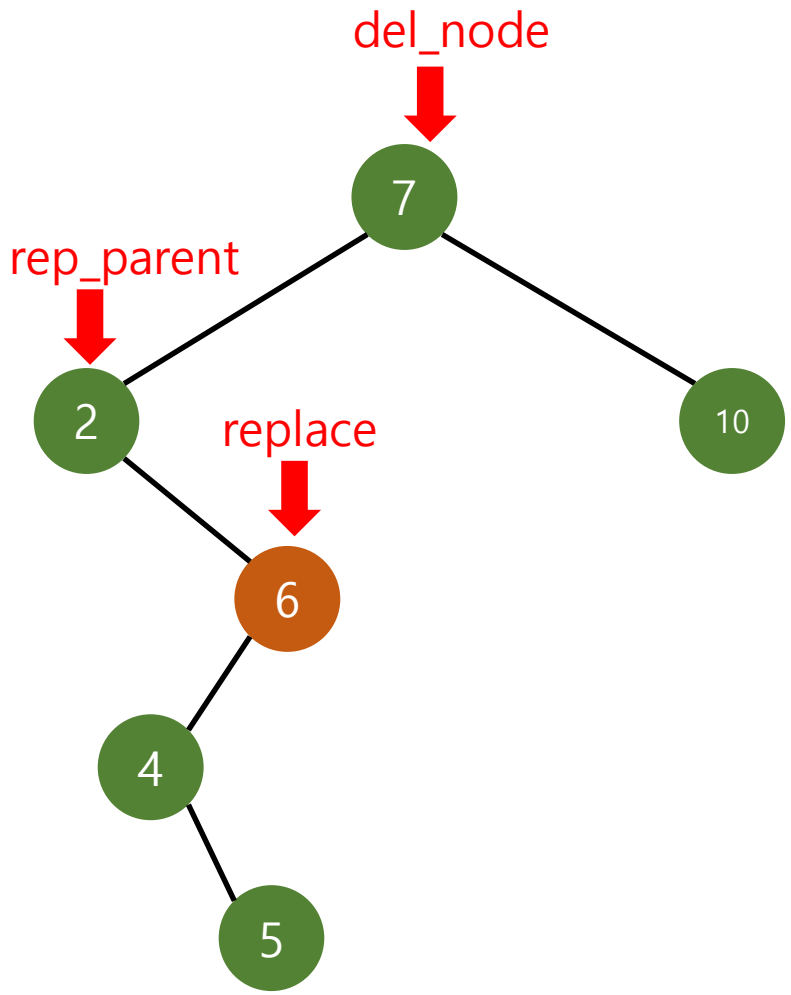
자식 노드가 하나일 때



대체 노드




rep_parent
del_node
6
replace
4
10
3
2


del_node
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rep_parent
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replace
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