

[1-1]

$$(1) \quad O(n^2) \quad \Theta(n^2) \quad \Omega(n) \quad \Omega(n^2)$$

$$(2) \quad O(n) \quad O(n^2) \quad \Omega(n)$$

[2-1]

$$(1) \quad 5n^2 + n, \quad 2^n$$

$$(2) \quad 10, \quad n + \log n, \quad n \log n, \quad 5n^2 + n, \quad 2^n$$

[1-2] $\Theta(n^3)$

[2-2]

$$T(n) = 2T(n/2) + \Theta(1)$$

$$h(n) = n^{\log_2 2} = n, \quad f(n) = \Theta(1)$$

$$T(n) = \Theta(h(n)) = \Theta(n)$$

답: $\Theta(n)$

[1-3]

	1	2	3	4
(1)	3	5	6	10

(2) 안정정렬로 구현하기 위해

(3) $\Theta(n)$

[2-3]

(1) selection sort, bubble sort

(2) quick sort, heap sort

(3) radix sort, counting sort

(4) radix sort, bubble sort, counting sort

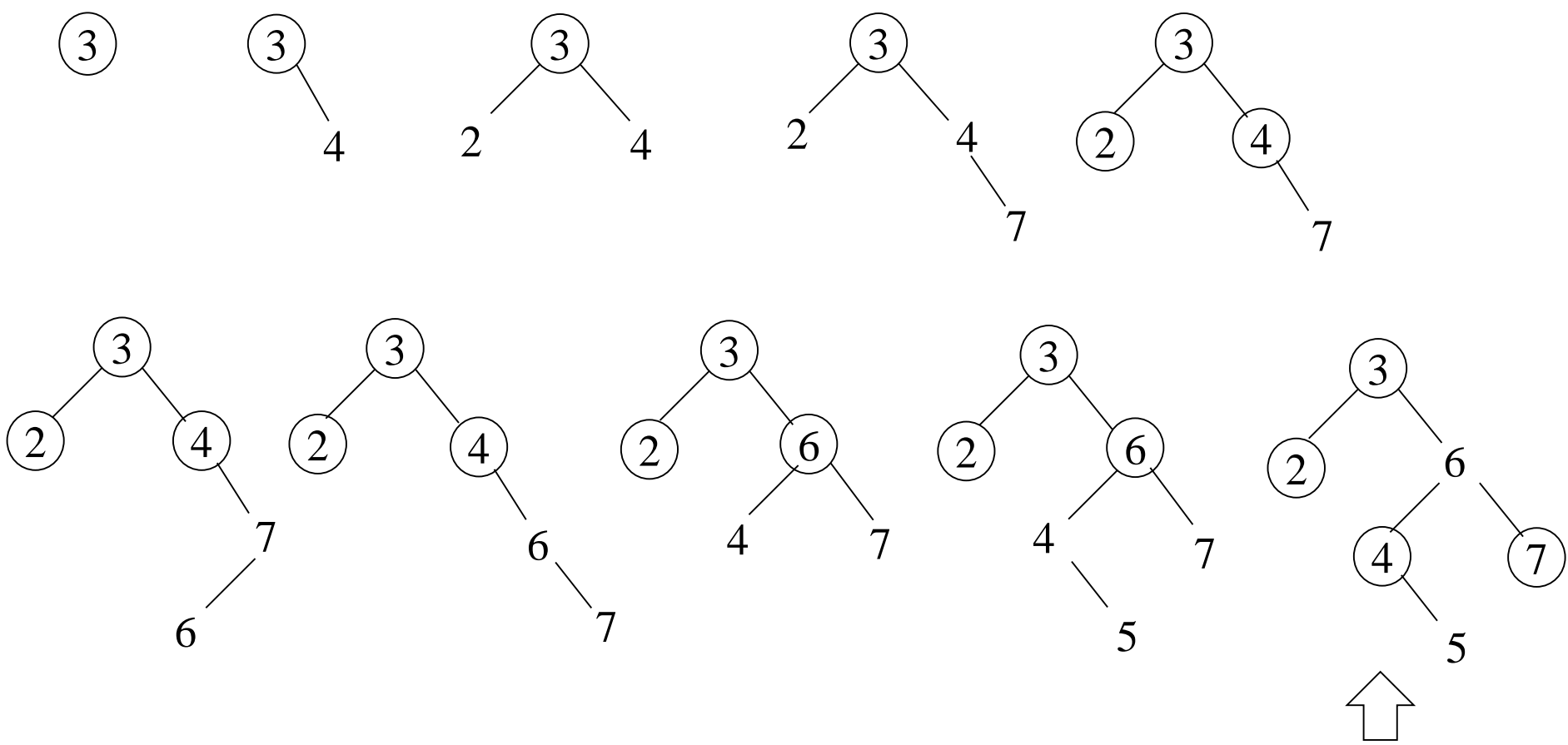
[2-4]

(1) (나) select(A, 4, 9, 4);

(2) $\Theta(n)$

[1-5]

(1)

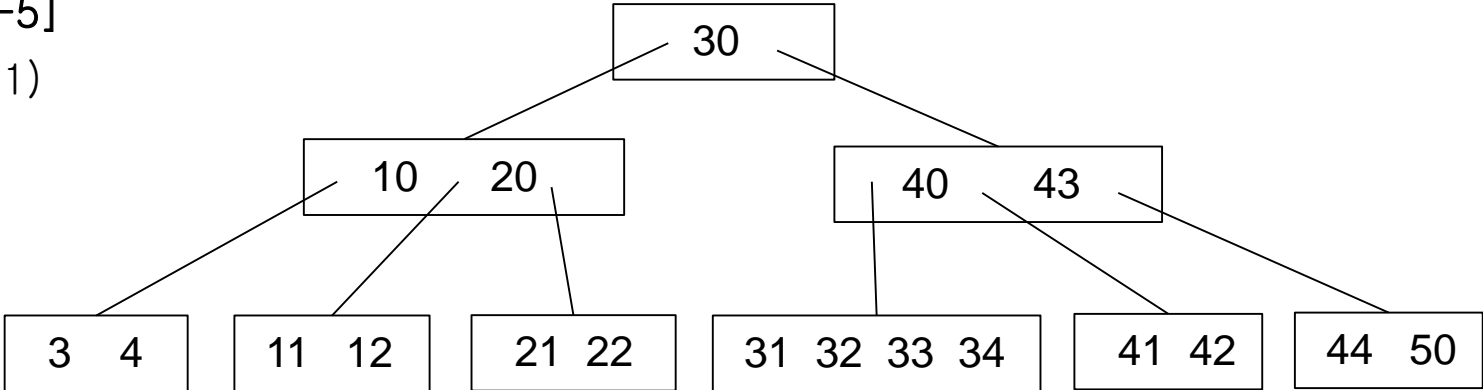


최종 트리 상태

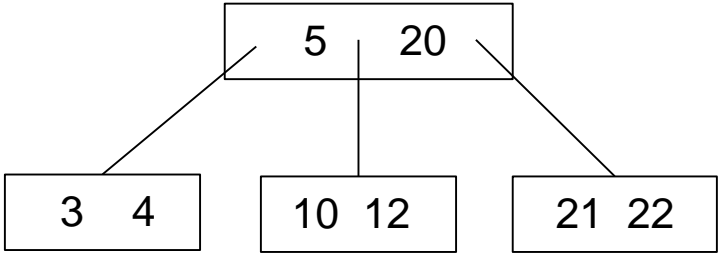
(2) $O(\log n)$

[2-5]

(1)



(2)



(3) $O(\log n)$, $O(\log n)$

[1-6]

- (1) 4/11
- (2) 높아진다
- (3) 바람직하지 않다
- (4) 3

(5)

0	0
1	1
2	2
3	3
4	11
5	
6	
7	
8	
9	22
10	

[2-6]

(1) 4

(2)

0	
1	1
2	2
3	3
4	12
5	5
6	23
7	
8	
9	
10	

(3) 삭제한 자리에 특수한 상수값(DELETED)을 저장하여 원래 키값이 있던 자리임을 표시.
실제로 비어있으므로 새로운 원소를 저장할 수 있음

(4) 충돌 처리 방법으로 체이닝(chaining)을 사용