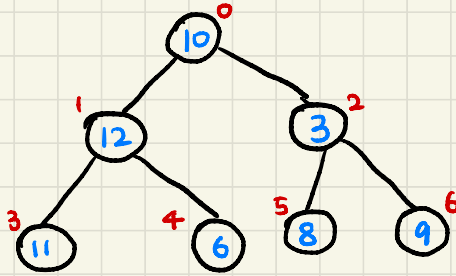


Part 4(a)

① first converting an array to a heap

0	1	2	3	4	5	6
10	12	3	11	6	8	9

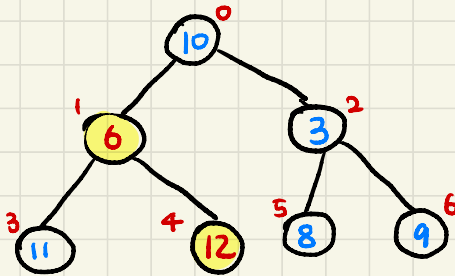


② check heapify (2)

no need to do heapify (2). since 3 is smaller than 8 and 9.

③ check heapify (1)

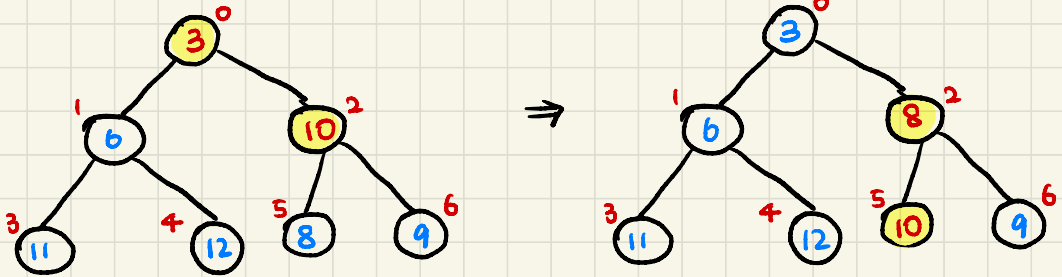
swap 12 & 6



④ check heapify(0)

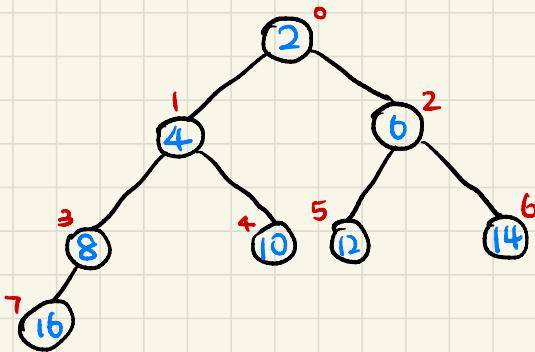
swap 10 & 3

swap 10 & 8

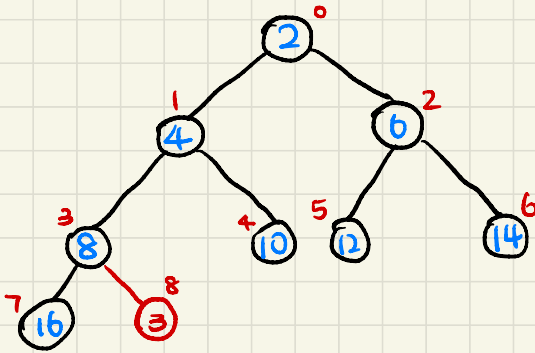


Part 4 (b)

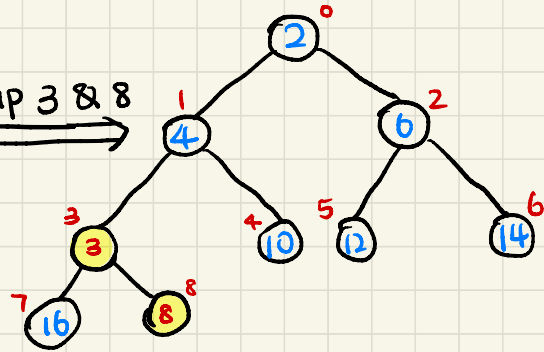
Initial Configuration:



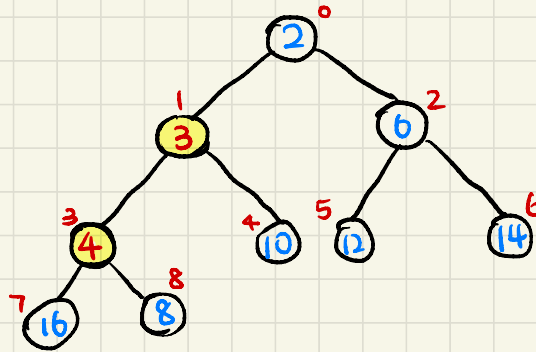
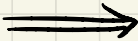
Insert 3:



swap 3 & 8

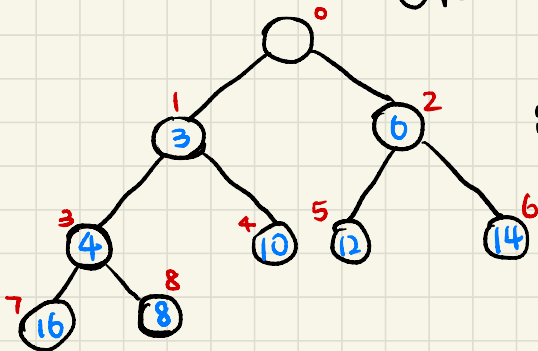


swap 3 & 4

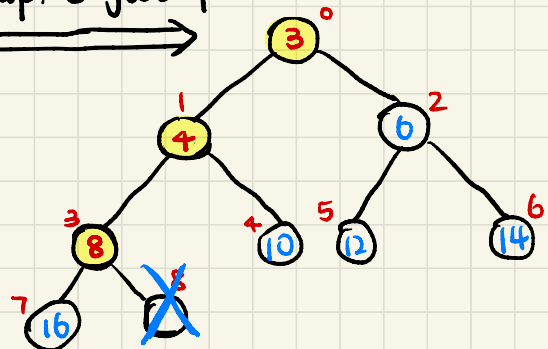
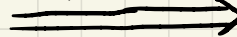


pop(top element):

② remove

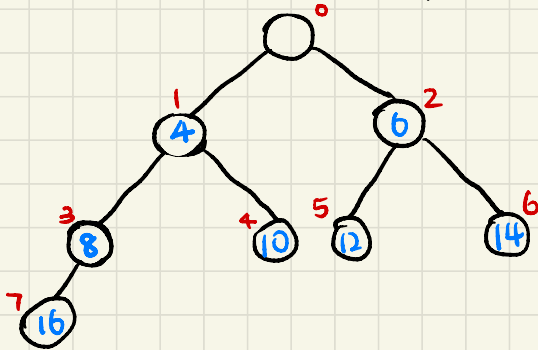


3 goes up, 4 goes up, 8 goes up

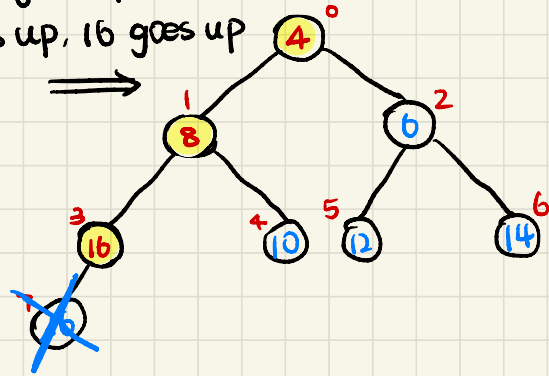


pop(top element):

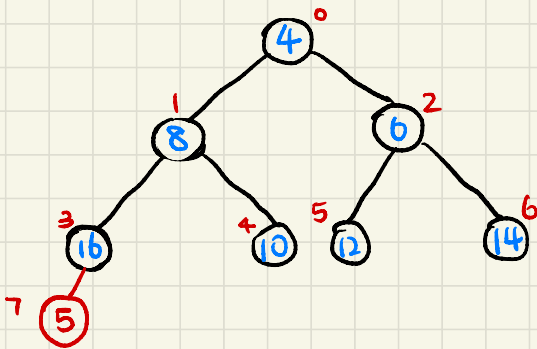
③ remove



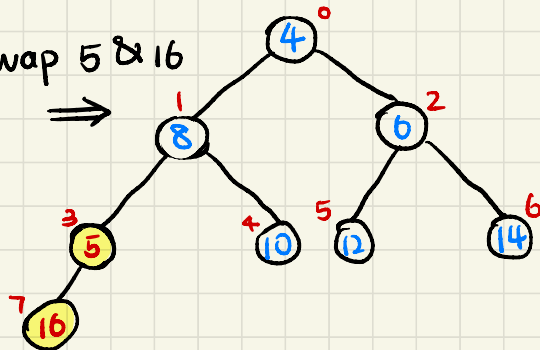
4 goes up, 8
goes up, 16 goes up



Insert 5 :



swap 5 & 16



swap 5 & 8

