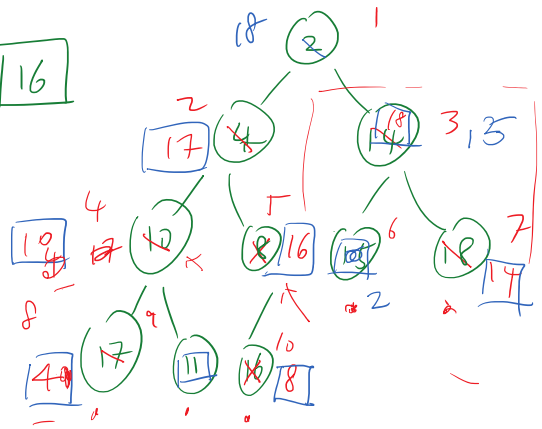
9/21/2016

Wednesday, September 21, 2016 6:48 PM

[2 4, 14, 10,
8, 15, 18, 17,
11, 16]

| 2 | 4 | 14 | 10 | 8 | 15 | 18 | 17 | 11 | 16 |



Max Heap? →

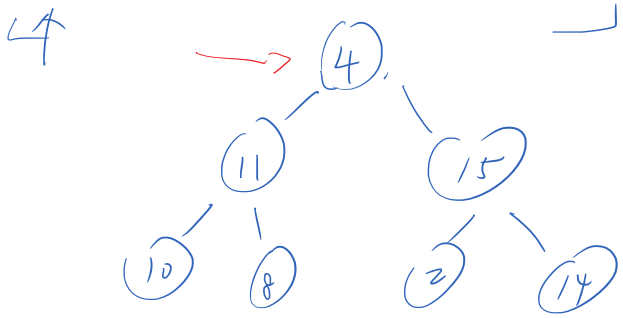
Step 1 : Build Heap

$\lfloor \frac{n}{2} \rfloor$

| 18 | 17 | 15 | 10 | 16 | 2 | 14 | 4 | 11 | 8 |

Step 2

| 8 | 17 | 15 | 10 | 16 | 2 | 14 | 4 | 11 | 18 |

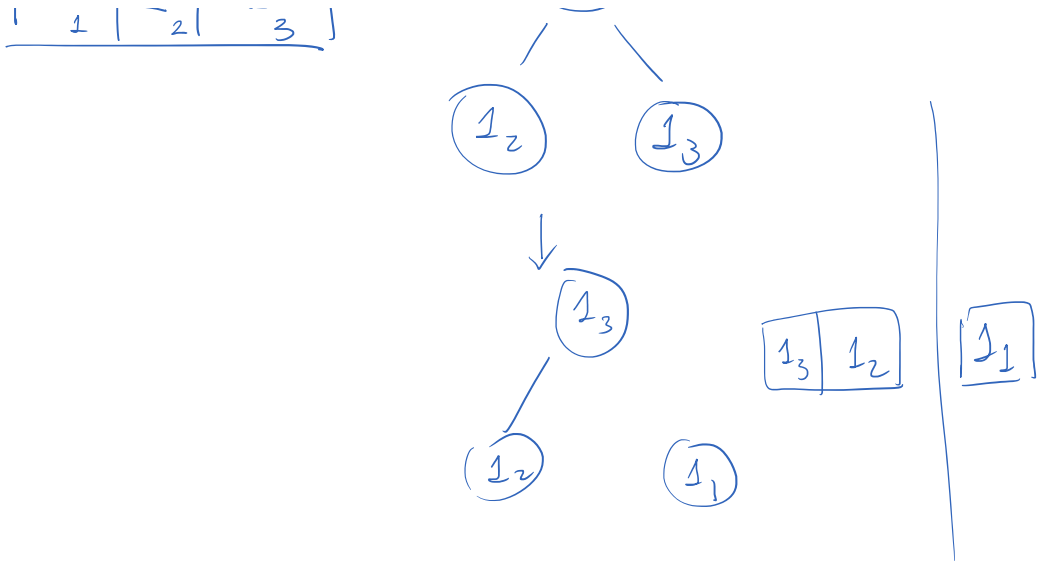


| 18 |

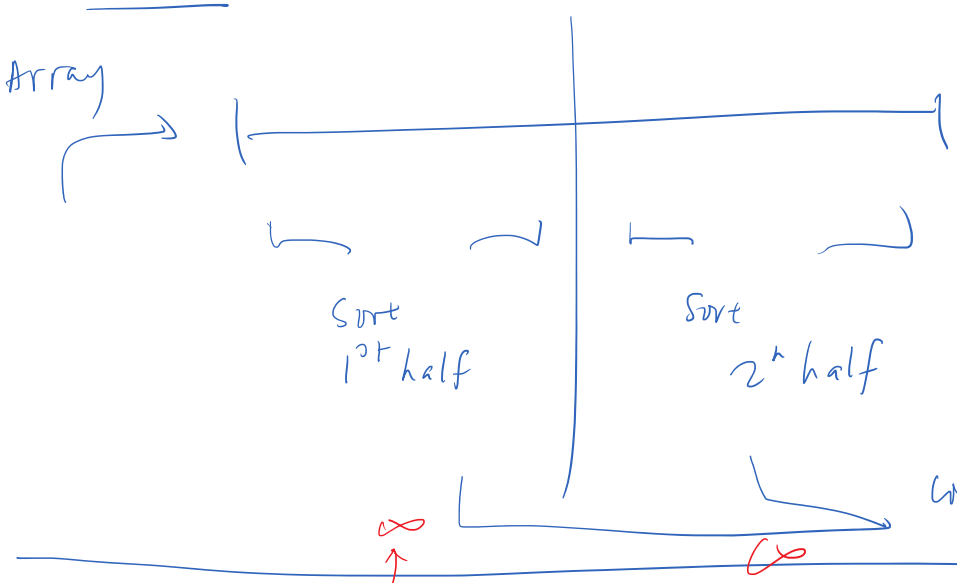
16, 17, 18

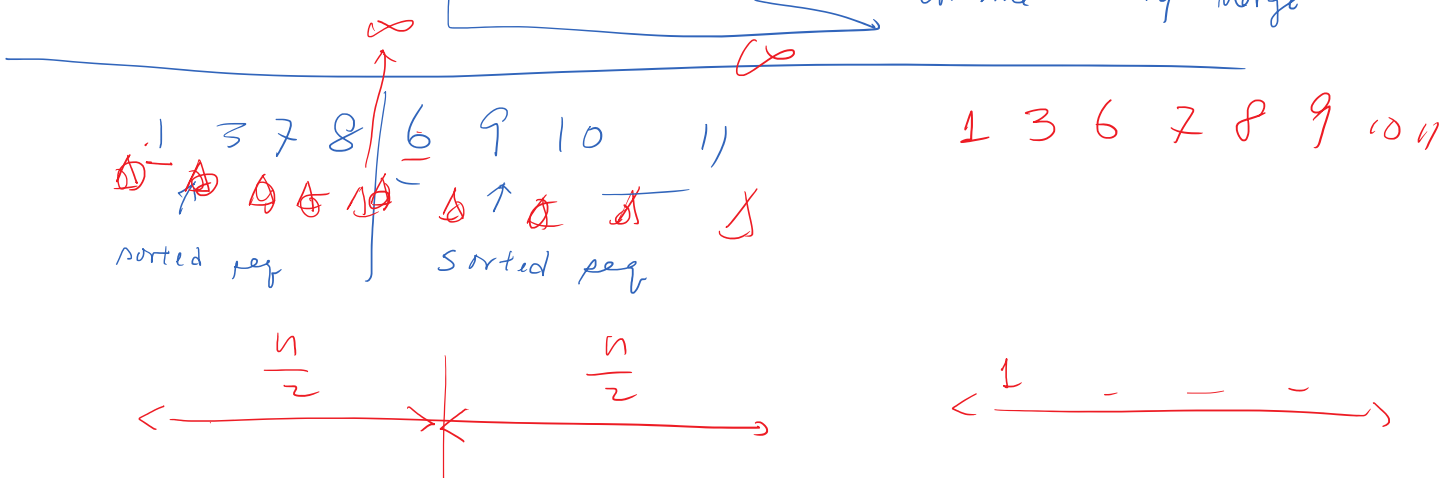
Heap Sort is not stable

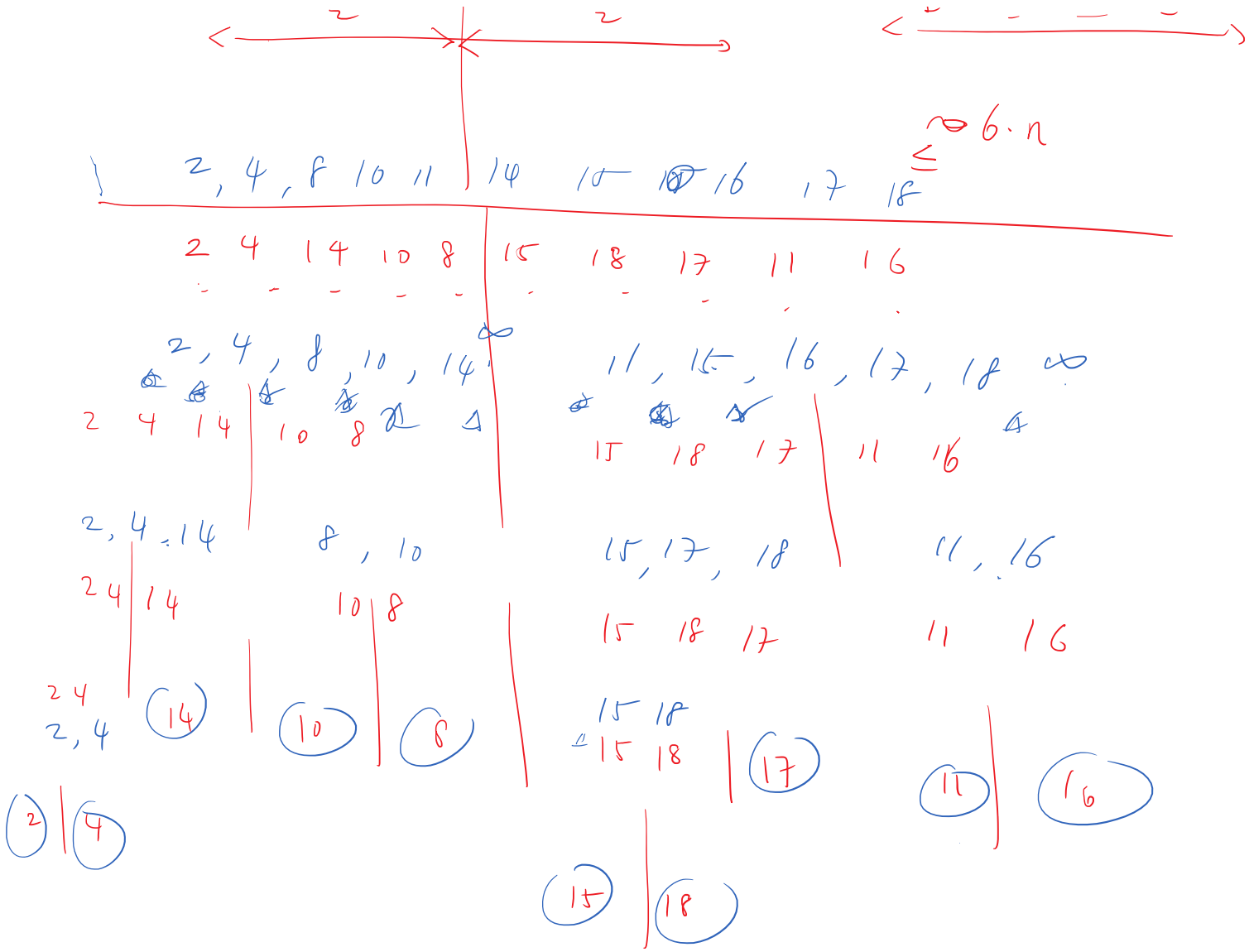
| 1_1 | 1_2 | 1_3 |



Merge Sort (divide & conquer)







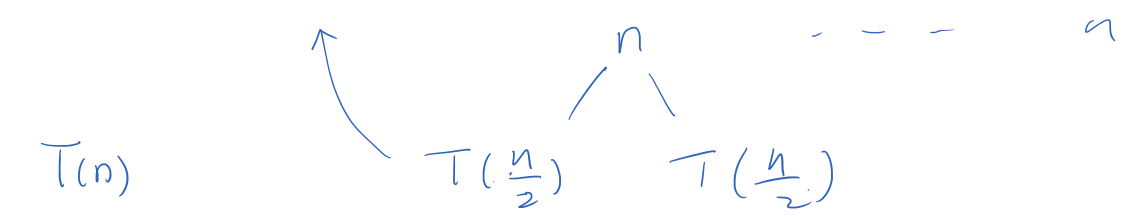
for divide & conquer alg:

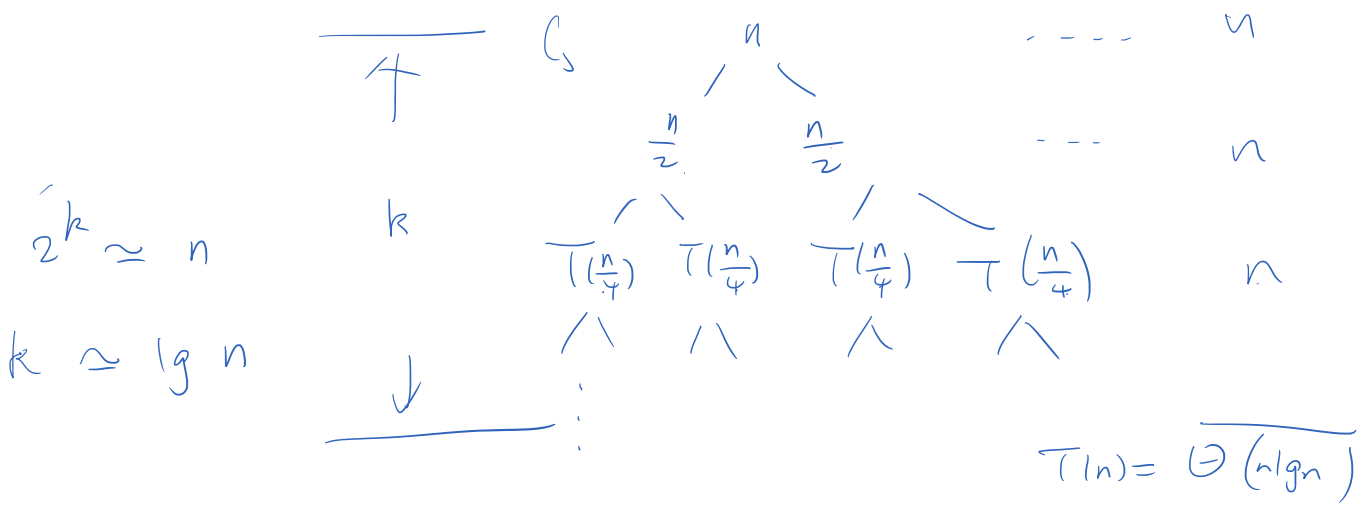
Apply the method to a of them

$T(\frac{n}{b}) + \cdots + T(\frac{n}{b}) + T(\frac{n}{b})$

a subproblems

$$T(n) = \begin{cases} 1 & n \le 1 \\ 2T\left(\frac{n}{2}\right) + n & n > 1 \end{cases}$$





Quick Sort :—