

9 f/ks ~ 2/2N

N/2/2/2

meld/merge()

decrease key()

del-min()

insert()

$h \log(h)$

$\log(n)$

$\log(h)$

$\log(h)$

~N/2/2/2

$O(\log)$

$O(\log)$

$O(\log)$

wc $O(\log)$
Amortized $O(1)$

~N/2/2/2

$O(1)$

$O(\log n)$

w.c. $O(n)$

$O(1)$

~N/2/2/2

Amortized $O(\log n)$

$O(1)$

w.c. $O(n)$

w.c. $O(n)$

$O(1)$

~N/2/2/2

Amortized $O(\log)$

Amortized $O(\log)$

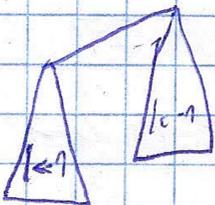
$k=0$
3 Nc 3 x c

$k=1$
N/2/2/2

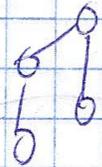
$k=2$
2^k
N/2/2/2

~N/2/2/2

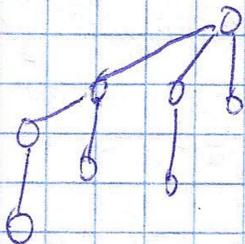
~N/2/2/2



$k=2$



$k=3$

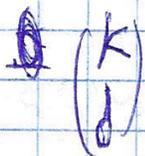


N/2/2/2

2^k, k ton

~N/2/2/2

k k n k n f r r f s



ton 2 n 2 n 2 n 2 n 2 n

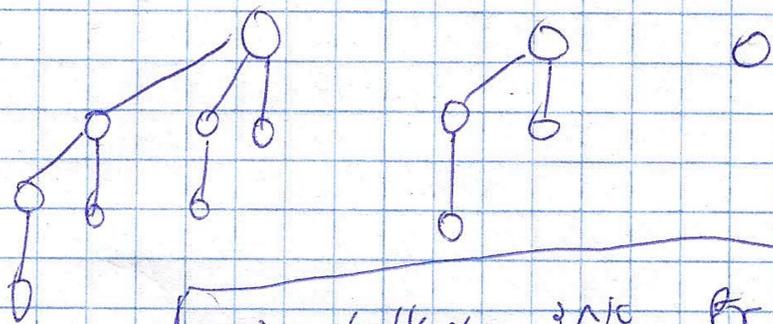
~N/2/2/2

3 2 1 0

per more

? 2/2/2/2

$\binom{13}{2} = 1101$



Set me with one more

Merge() - merge two sorted arrays

merge two sorted arrays
arr1, arr2

merge() insert()

delete min()



merge() insert()

merge() insert()

merge() insert()

decrease key

merge() insert()

3/10/17

decrease key + delete min
insertion, merge, delete min

consecutive cuts
merge, delete min

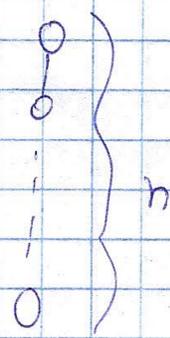
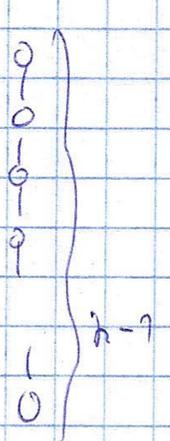
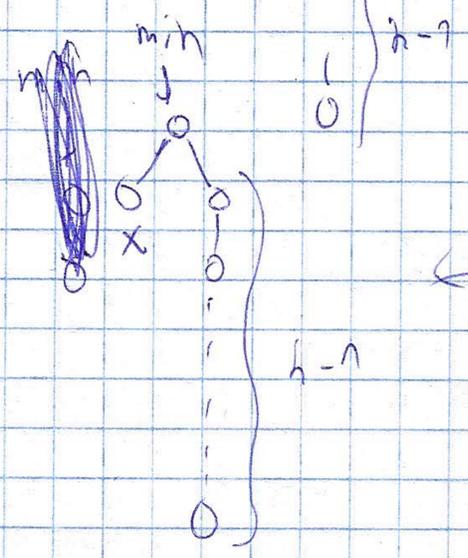
delete min
merge
insertion

delete min
insertion
merge

delete min
insertion
merge

delete min
insertion
merge

insert(x)
delete min



del(x)

3 office

Decrease-key

delete

insert

$c \rightarrow$

$c = 0$

$m \leq \delta$

$c \leq \delta + m$

$c \leq 2\delta$

$c \leq 2\delta - 1$