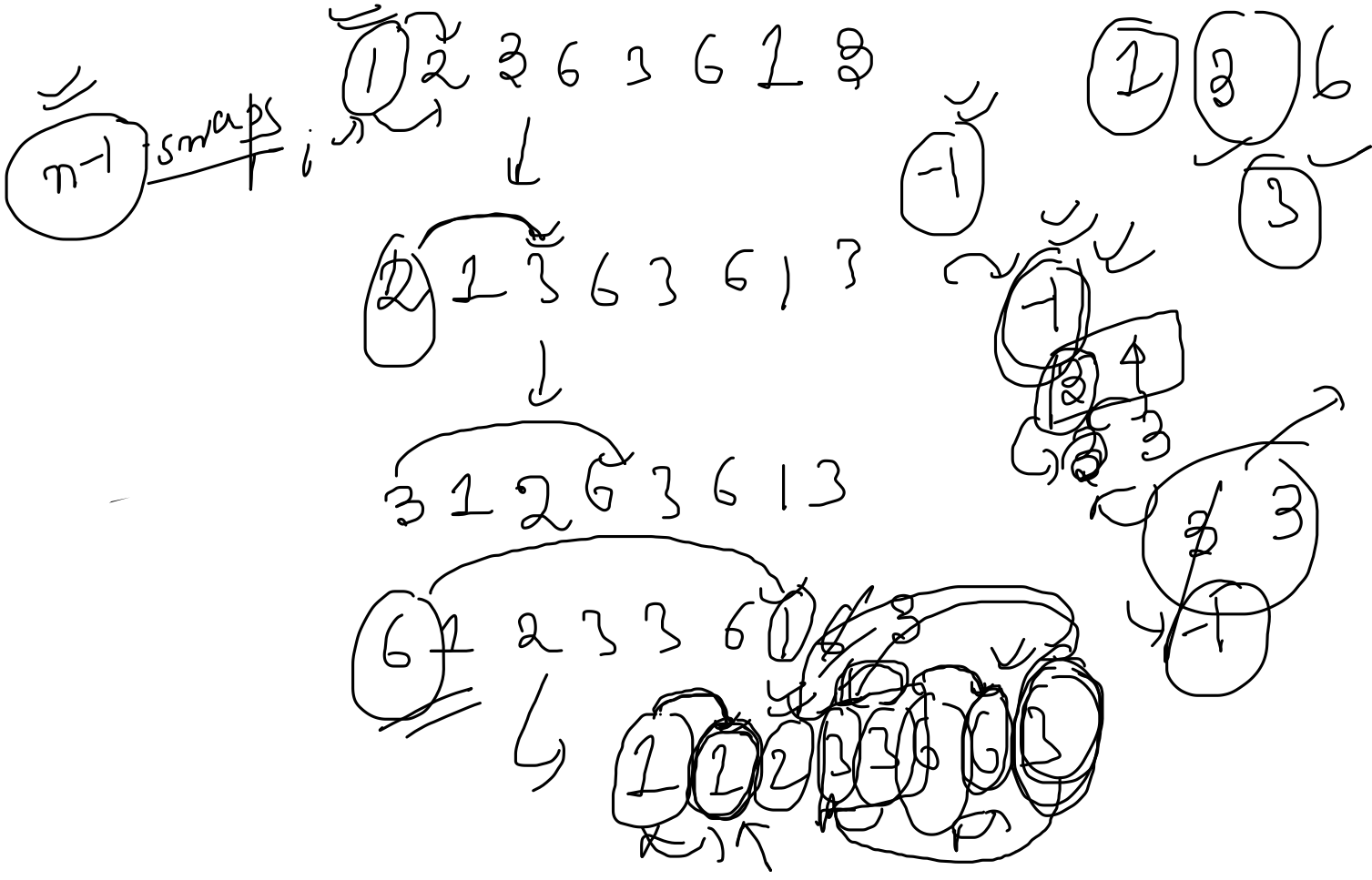
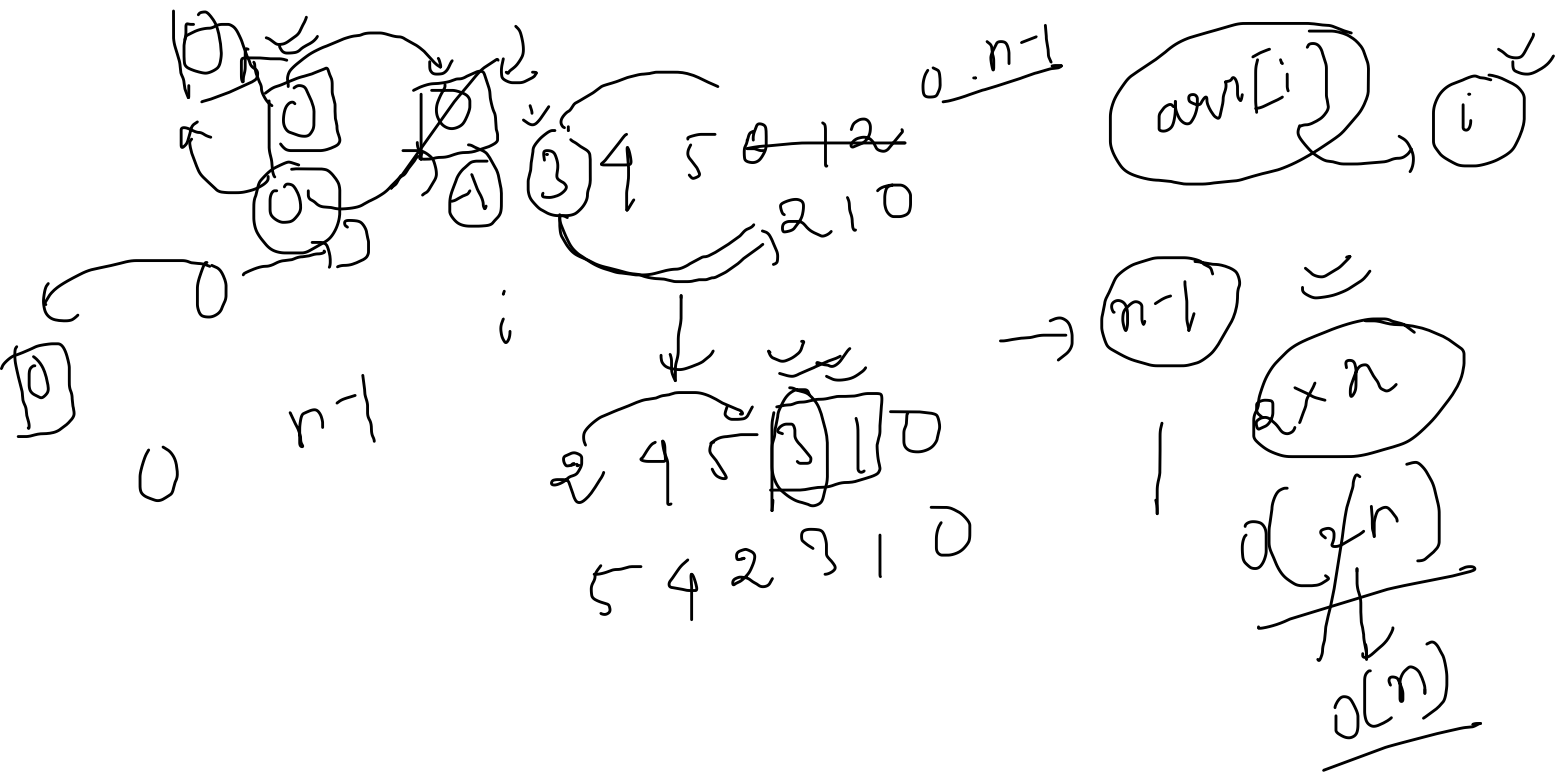
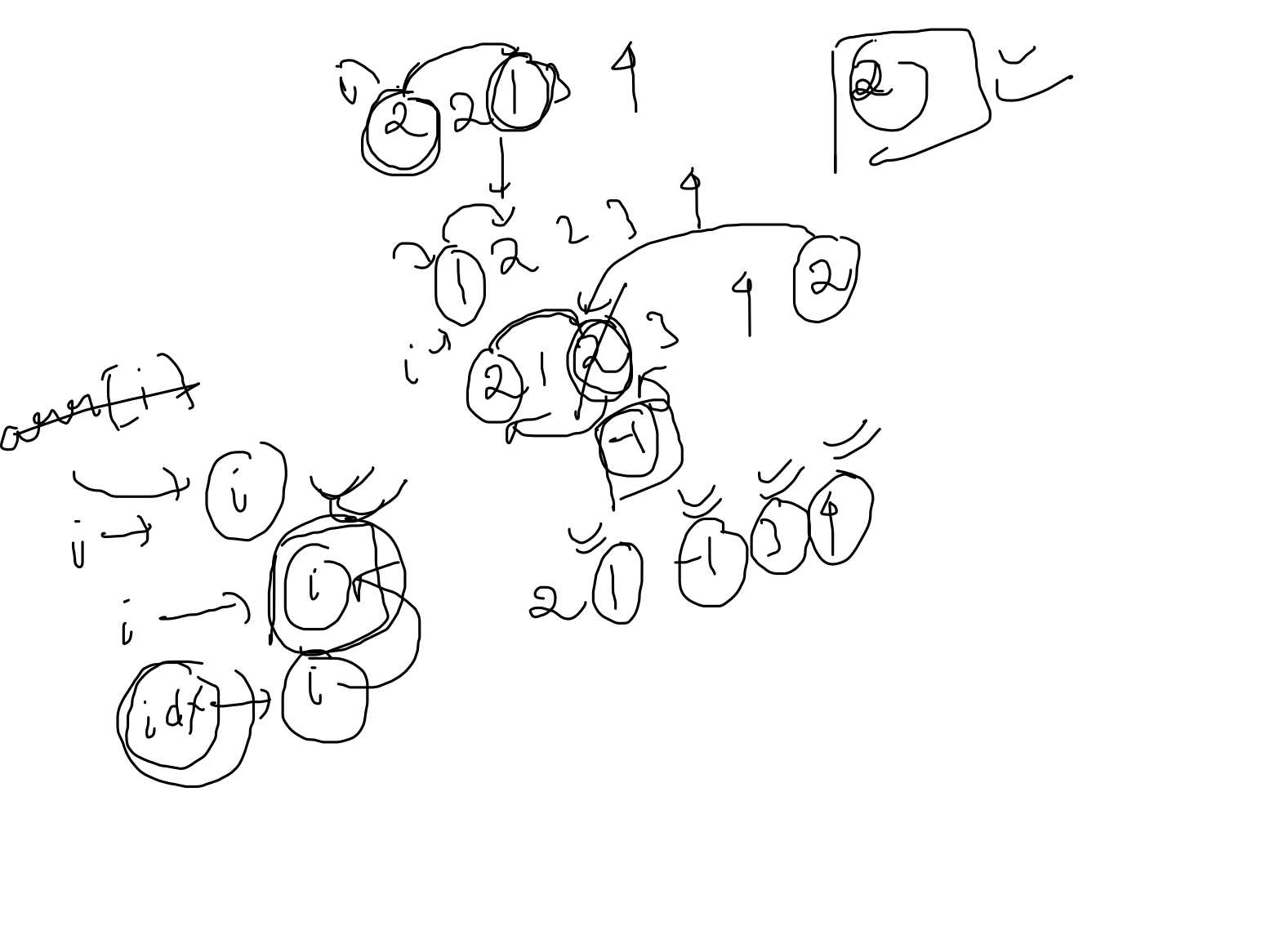
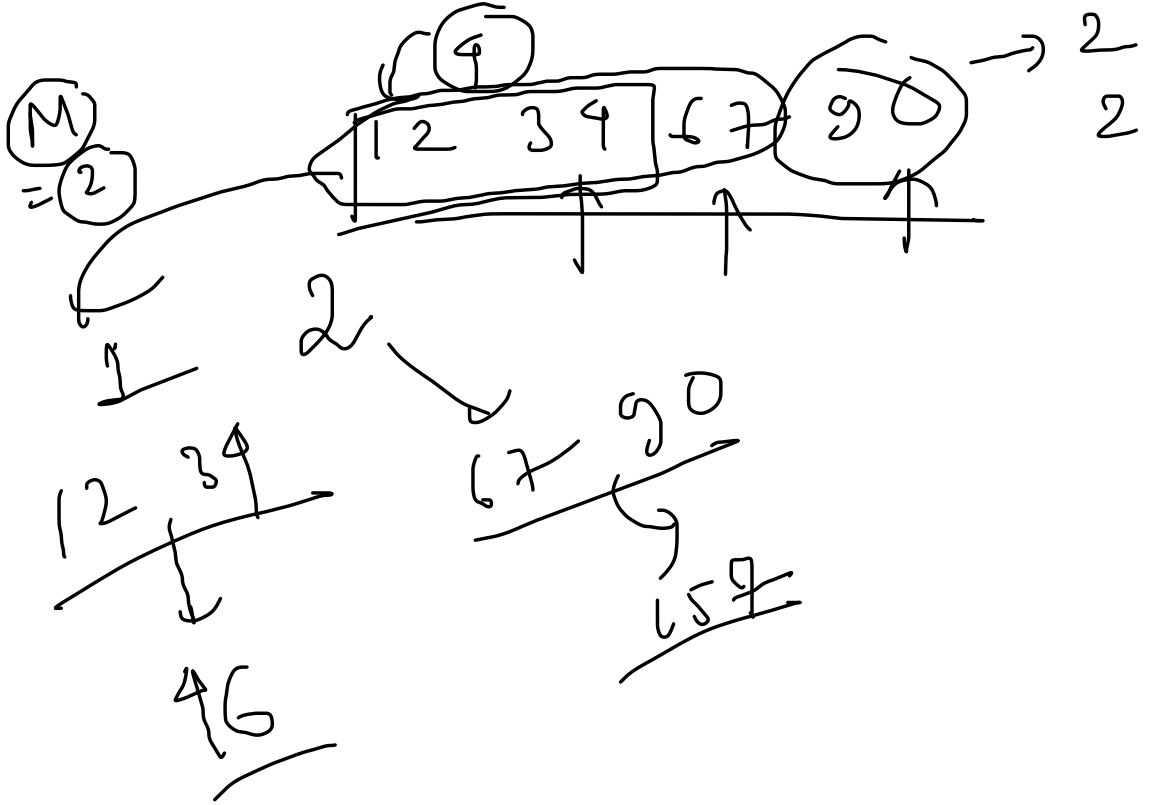

n-1 swaps
1 2 2 6 3 6 1 8
2 1 3 6 3 6 1 3
3 1 2 6 3 6 1 3
6 1 2 3 3 6 0 3
1 1 2 3 3 6 6 3


0..n-1
arr[i]
i
n-1
2 x n
O(n)

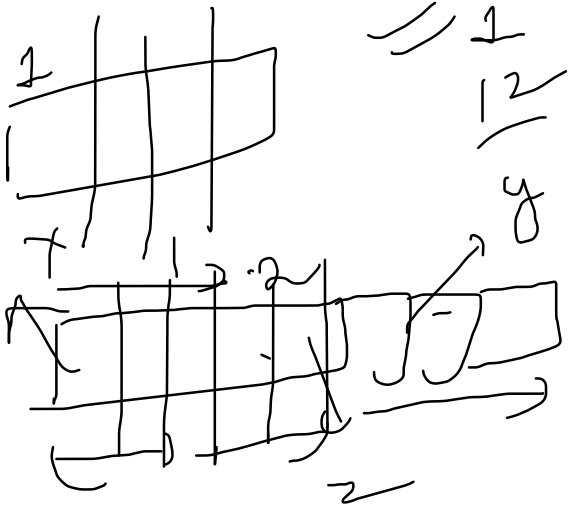


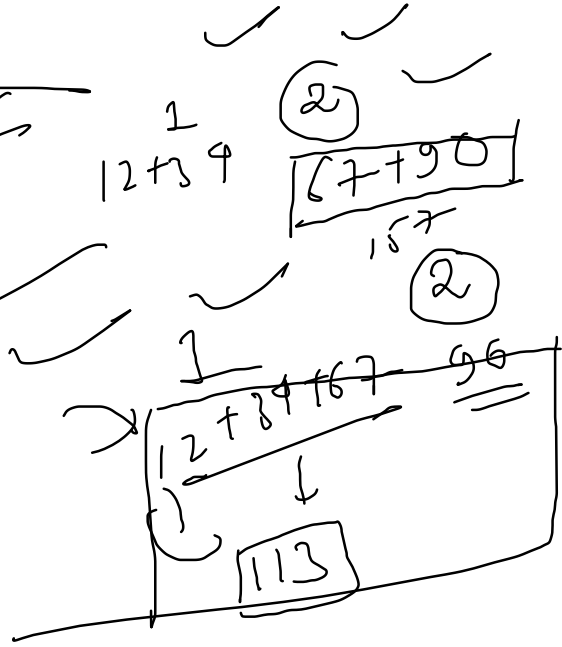

M
=2
9
1 2 3 4 5 6 7 8 9 10
2
2
1
2
1 2 3 4
5 6 7 8 9 10
4 6
5 7

N=4

M=2

12 34 67 90

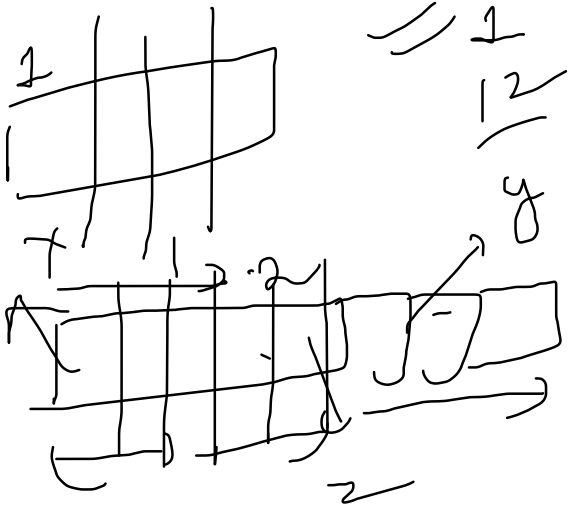




N=4

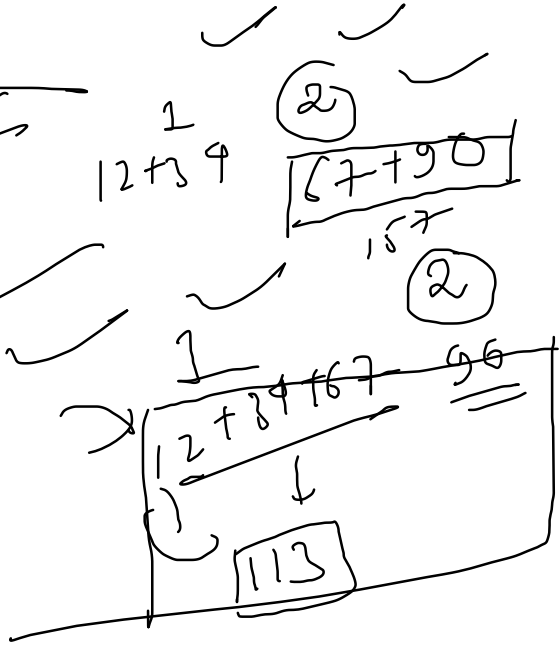
M=2

12 34 67 90



1 12 34+67+90

184 191

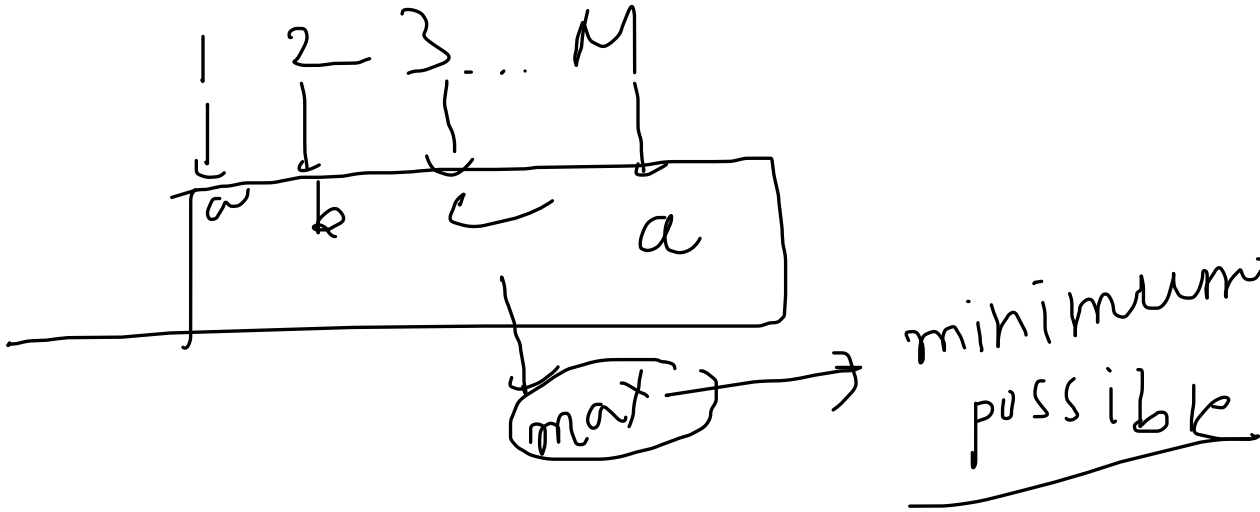


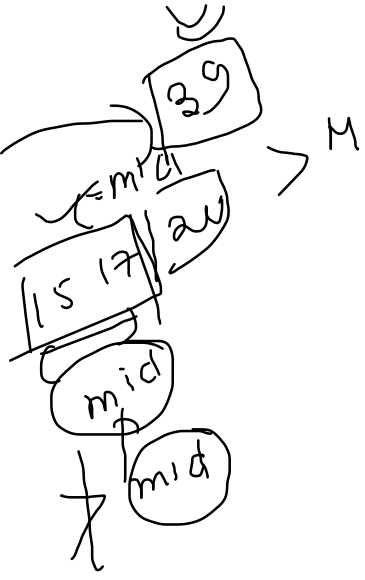
1 12+34 67+90

157

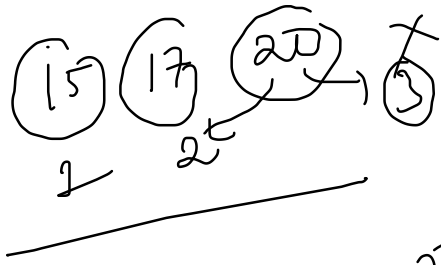
12+34+67 96

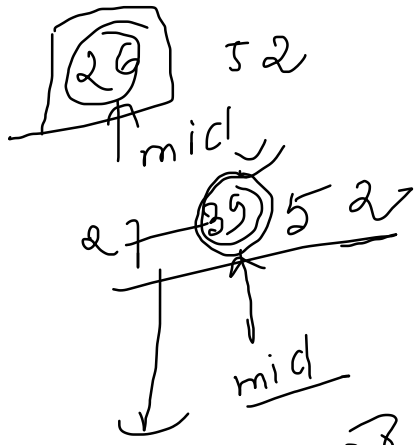
113

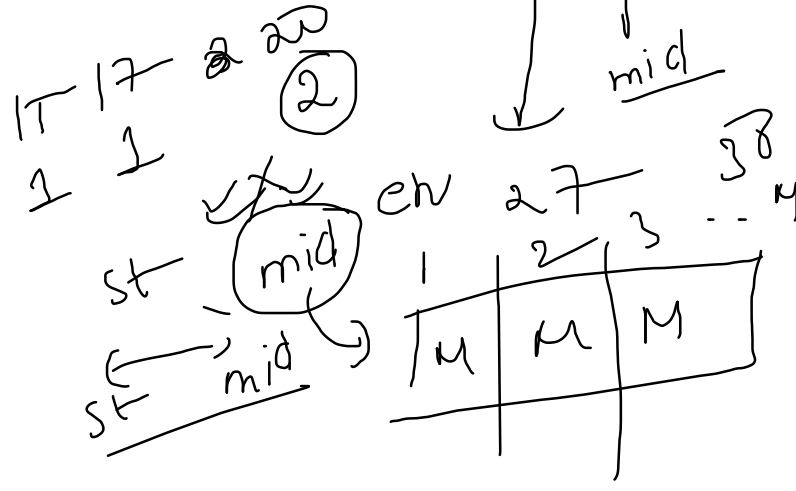

1
2
3
...
M
a
b
c
a
max
minimum
possible

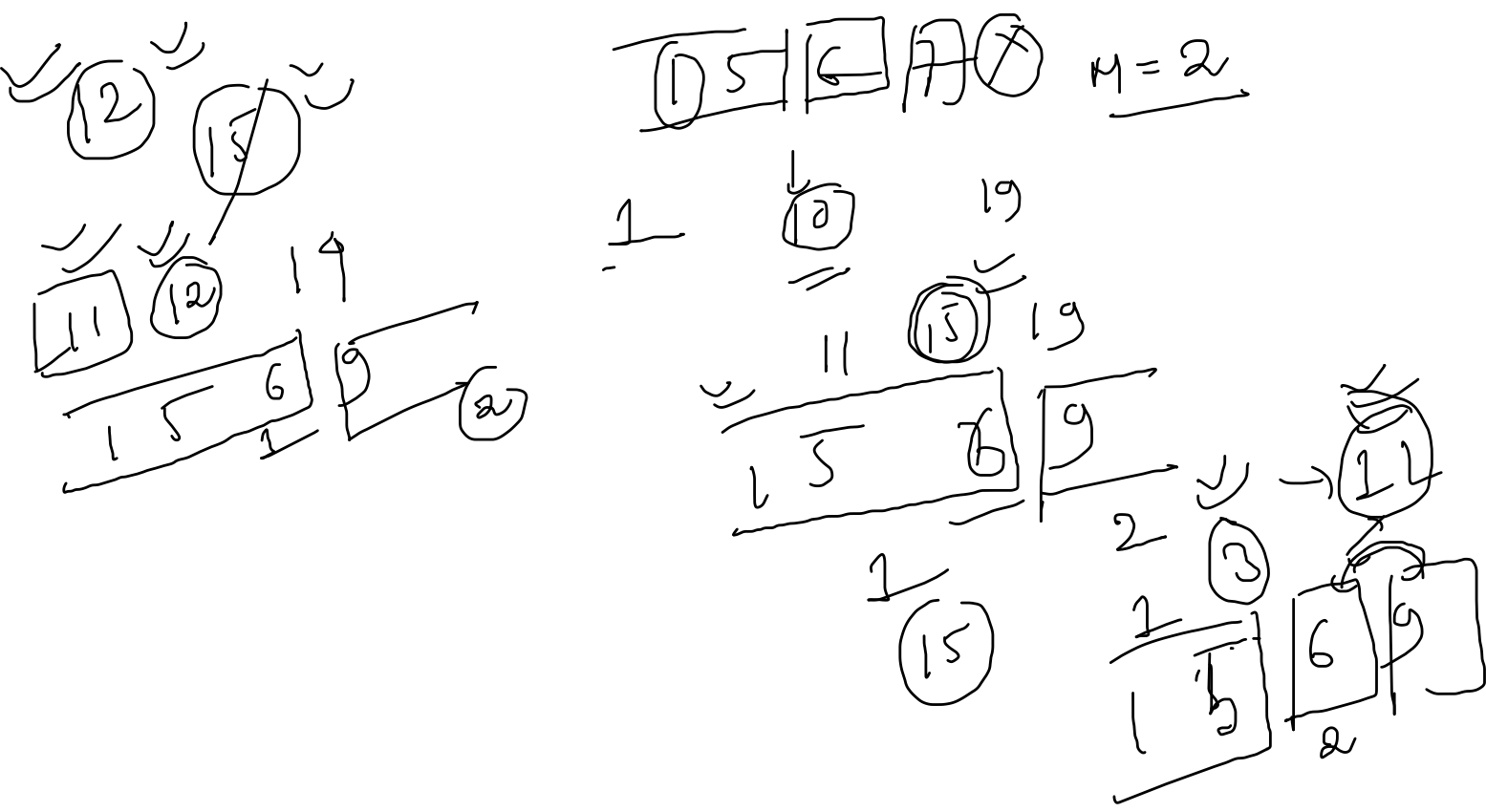

39
<=mid
>M
15 17
20
mid
mid

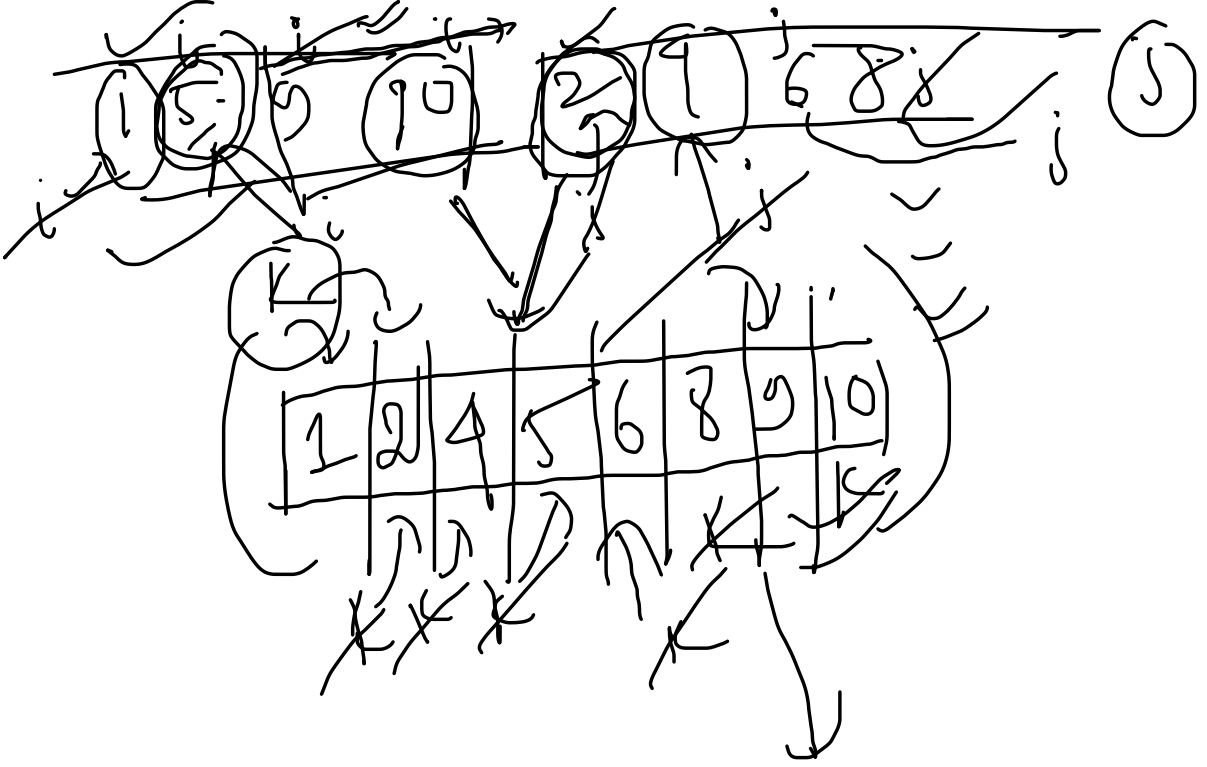
⑨

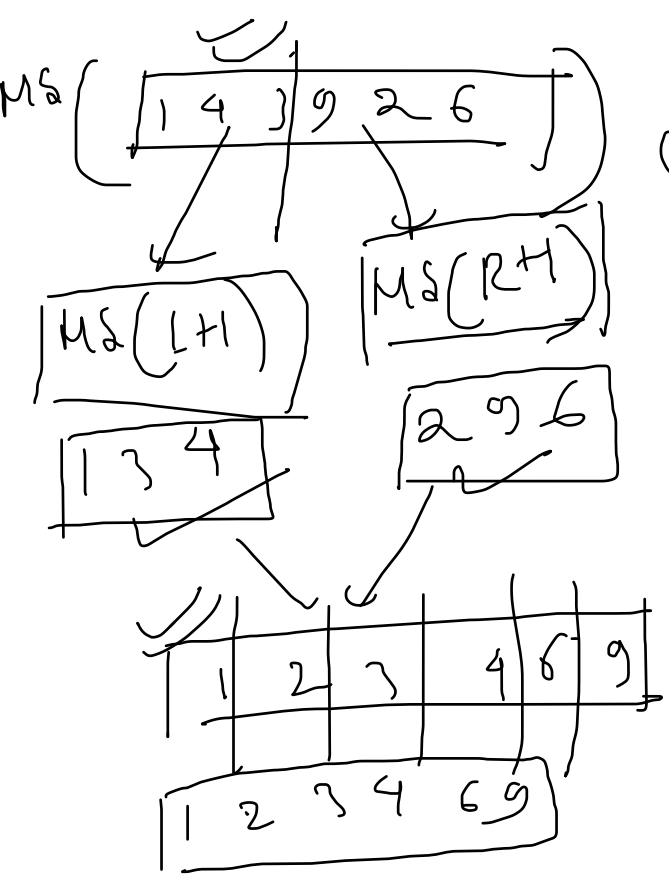

15
17
20
3
1
2


26
52
mid
27
39
52
mid

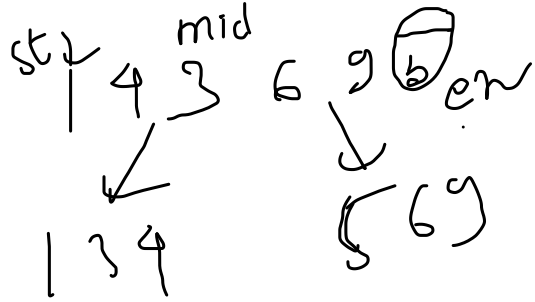

17 20
2
1 1
st
mid
st
mid
en
27
38
M
1
2
3
M M M

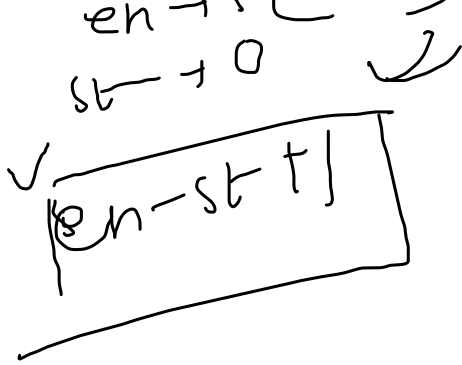

M = 2






```
Mergesort(st, en) {
    if(st >= en)
        return
    mid → (st+en)/2
    MS(st, mid), MS(mid+1, en)
    Merge(st, mid, en)
}
```


st
mid
en
4 3 6 9 6
3 4
6 9


en → r (s-0+1)
st → 0
en-st+1