22 July 2023 13:19

First -ve in every window of size

[-20,10,-5,4,6,-9,-80,60,50] k = 3

0 1 2 3 4 5 6 7 8

Windows → 0 to l-k

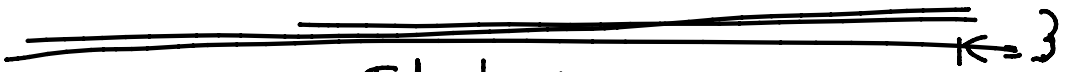
[-20,10,-5,4,6,-9,-80,60,50]

-20, -5, -5, -9, -9, -9, -80

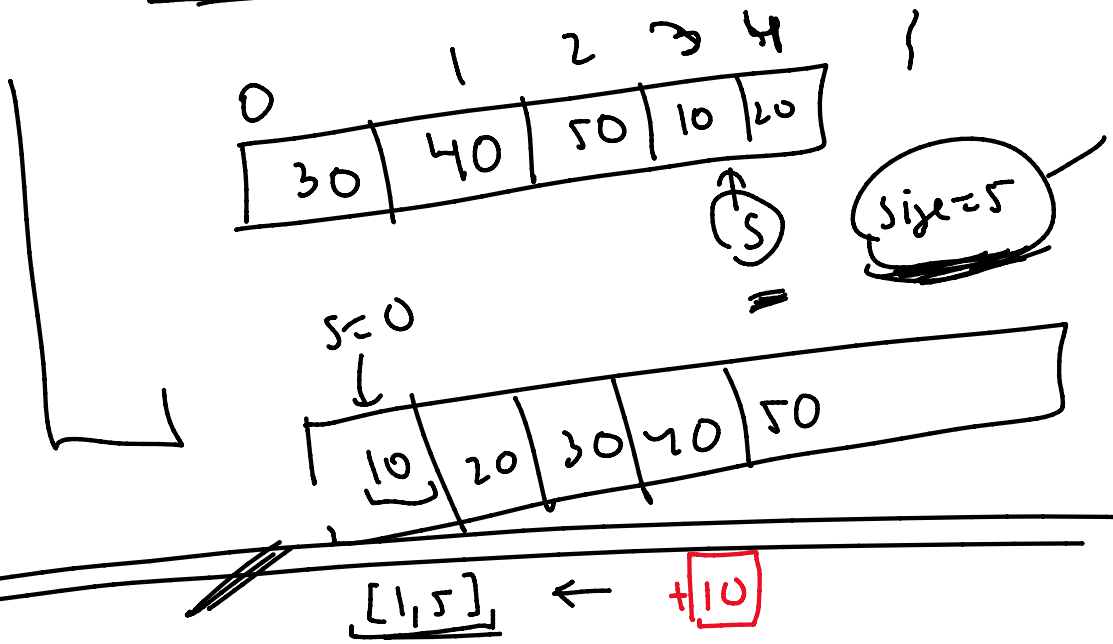
Q x

{ a, b, ... a b c d e f

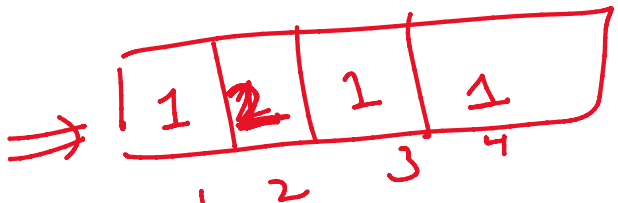
x x+1 x+2



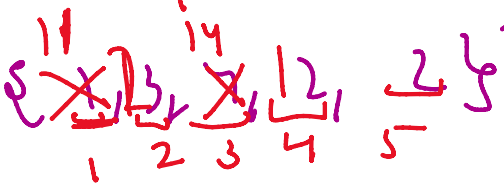
Inheritance

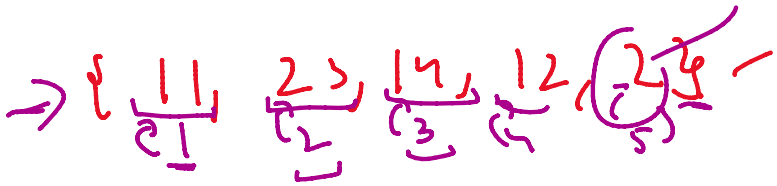


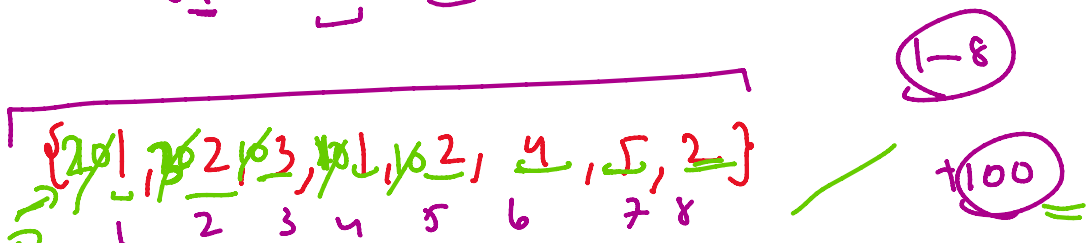
{ 1, 3, 4, 2, 2 }



[1,5] + 10

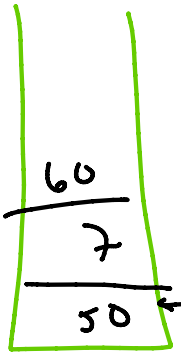






Min stack

int getmin()

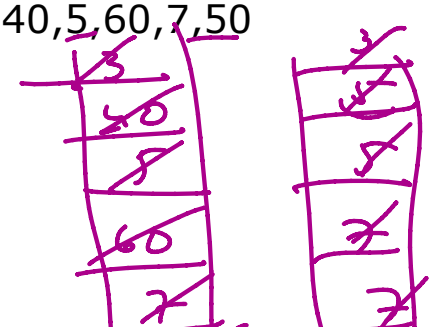


[3,40,5,60,7,50]

Getmin(){

}

3,40,5,60,7,50

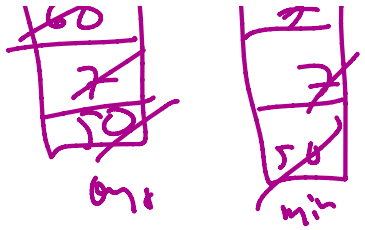


M1) T O(n) S O(n)

stack new std.

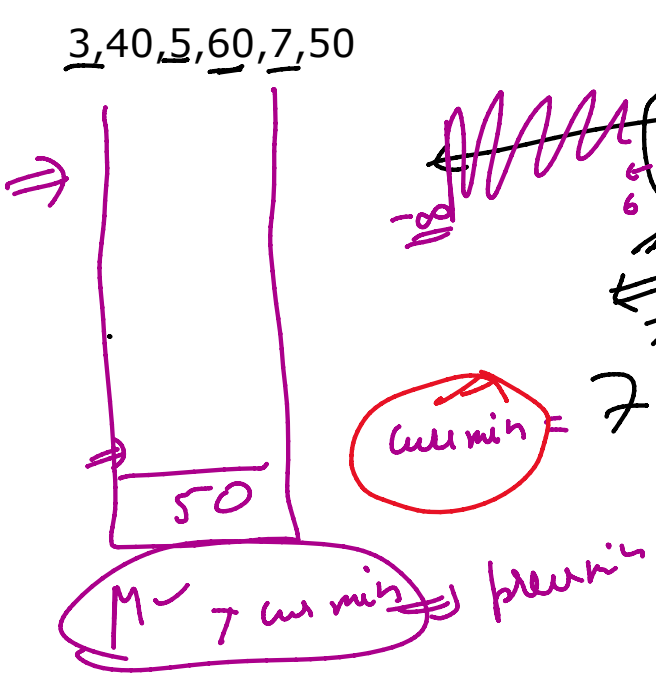
M2) Use extra std

T → O(1) S → O(n)

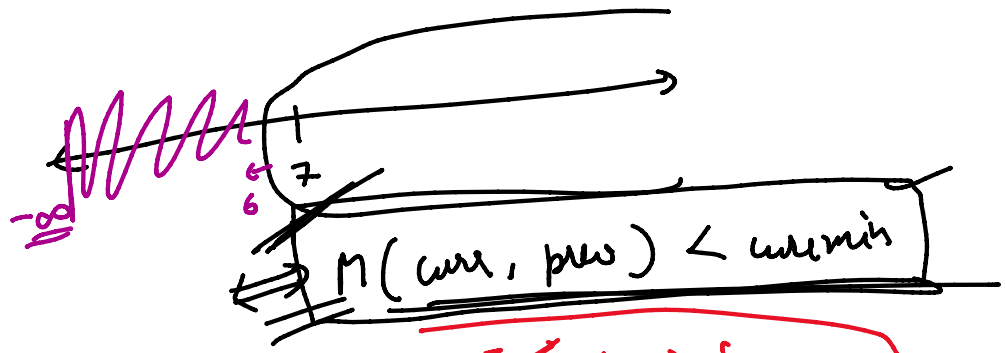


T → O(1) S → O(n)

3,40,5,60,7,50



curmin = 7




```
peek() {
ali = super.peek()
if ali < curmin
    re min;
else
    ret ali
```

curr < prev

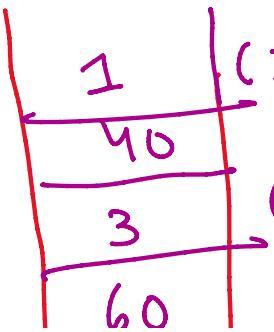
curr - prev < 0

2 curr - prev < curr.

↳ Magical fn

3,40,5,60,7,50

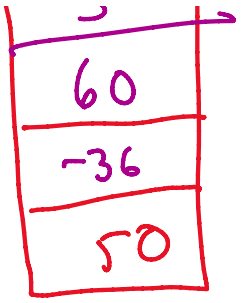
Magical = 2·curr - prev



(3,5) ⇒ 2·3-5

(5,7) ⇒ 2·5-7 =

```
add(ali)
if ali ≥ mi
    ali
else
    ali => 2-(-p
```



2·7-50 = -36

curr min = 50 ~~7~~ ~~3~~

ans = 2·(-p

14

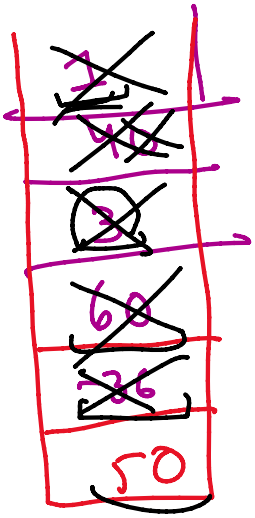
3,40,5,60,7,50

Magical = 2·curr - prev

p = 2·curr - M

p = 2·3 - 1 = 5

p = 2·5 - 3 = 7



p = 2·7 - -36 = 50

curr min = 3 ~~5~~ 7