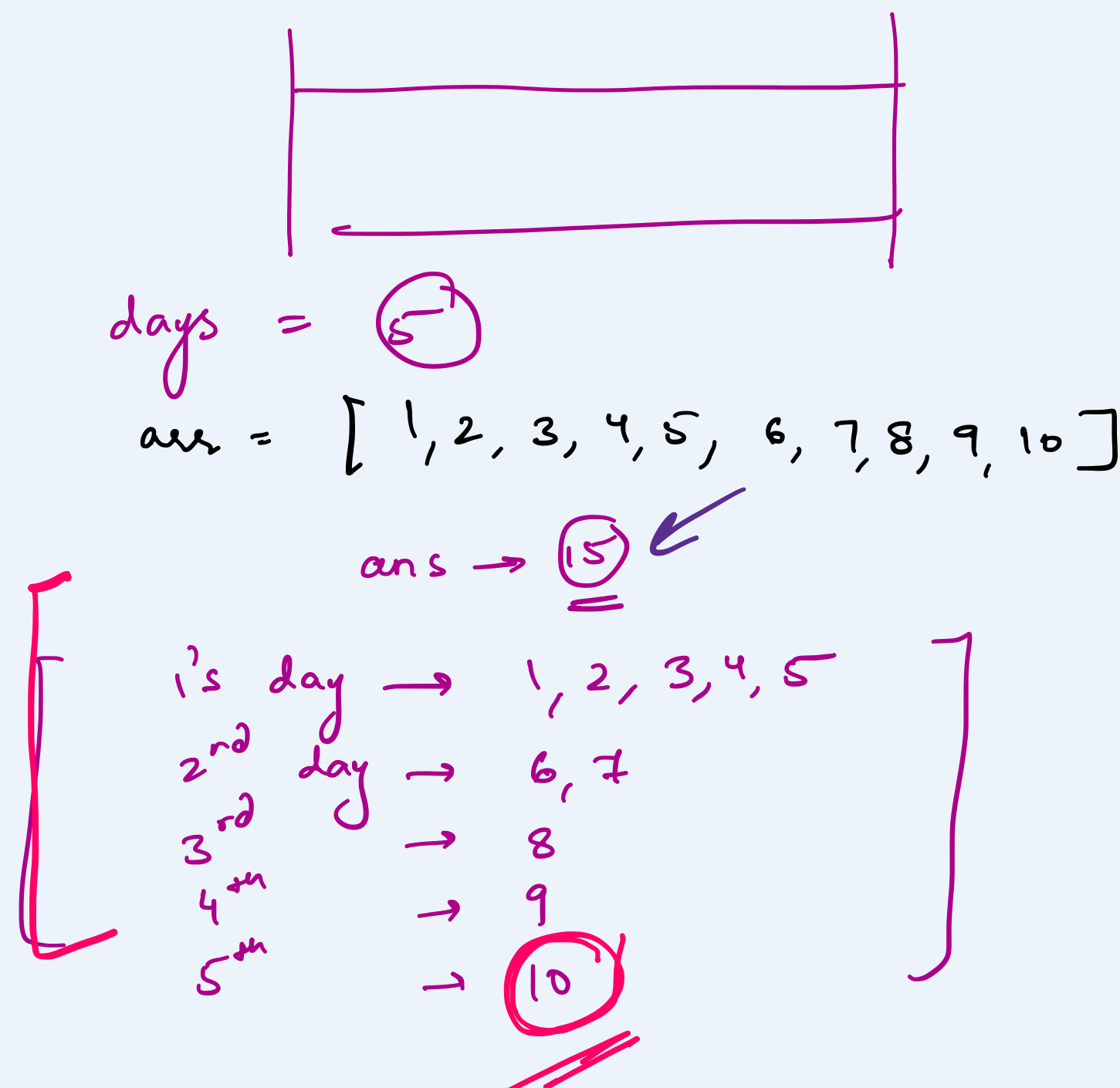
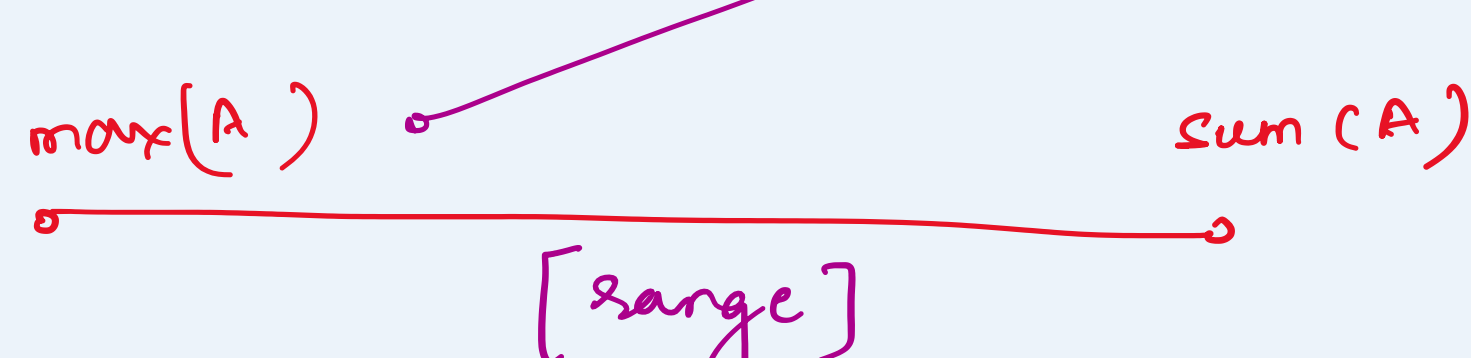


Q Capacity to ship packages within D days.



Search space: low = max(A)  
high = sum(A)



monotonic in nature

mid

for mid capacity of ship, is it possible to ship all packages

if (mid)

go left

else (mid) xxx

go right

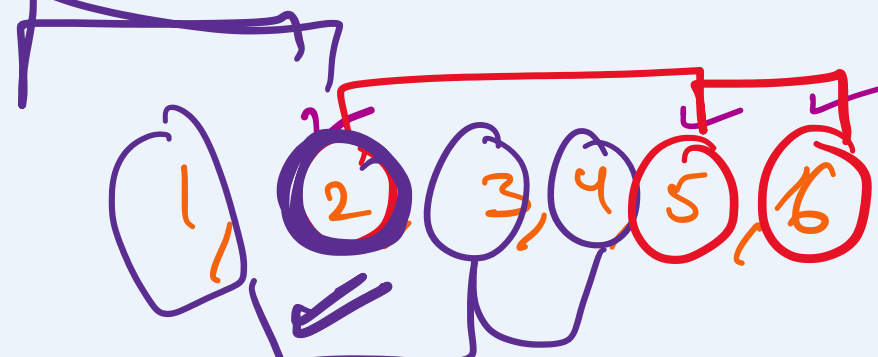
Q Patching Array

[1, 3]  
1+3

n=6  
[1-6]

[1, 2, 3]

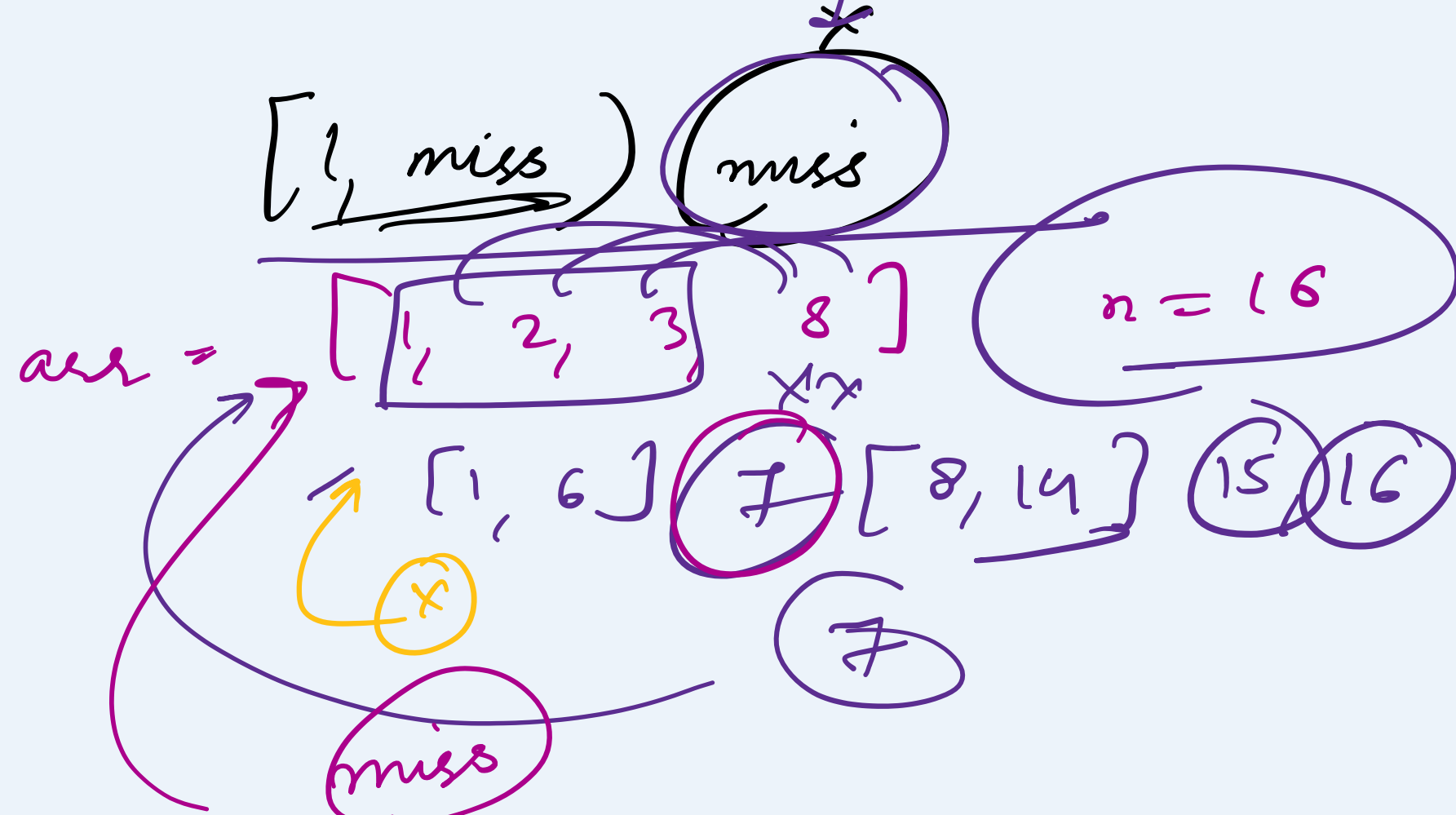
1 -> ✓  
2 -> ✓  
3 -> ✓  
4 -> ✓  
5 -> 2+3 ✓  
6 -> 1+2+3 ✓



x cents

x+1

miss -> smallest missing in



[1 + miss] [x + x + miss]

[1, 6] 1+7, 2+7, 3+7, 4+7, 5+7, 6+7

nums = [1, 2, 3, 8], n=80

	miss	Range	l	patches
0	1	[1, 1]	0	0
1	2	[1, 2]	1	0
2	4	[1, 4]	2	0
3	7	[1, 7]	3	1 patch 7
4	14	[1, 14]	3	1
5	22	[1, 22]	null	patch 22
6	44	[1, 44]	null	patch 44
7		[1, 88]		

Q Max difference you can get from changing an Integer.

num

2 times

5 5 5

x=5  
y=9

9 9 9

x=5  
y=1

1 1 1

diff maximised

999 - 111 = 888

(max) - (min) = (max)

find the left most digit in it that is not 9

and replace all occurrences of it with 9

min

0