STL → Standard Template Library

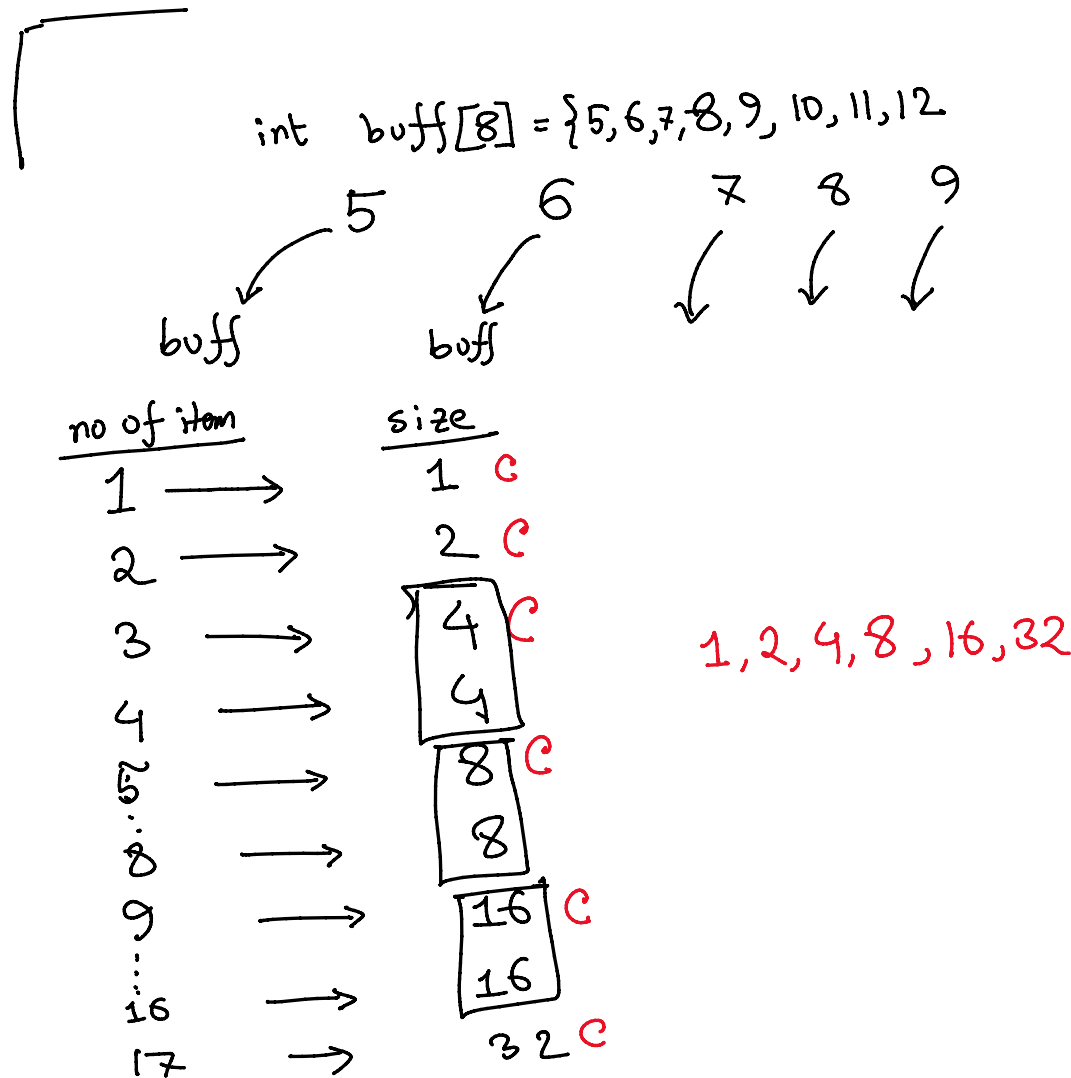**DS**

Stack
Queue
Set
Map
Heap

int buff[8] = {5,6,7,8,9,10,11,12

5   6   7   8   9

buff   buff

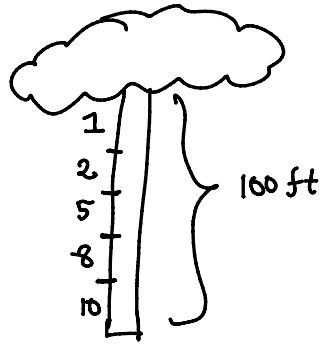| no of item	size
1 ⟶	1 c
2 ⟶	2 c
3 ⟶	4 c
4 ⟶	4
5 ⟶	8 c
8 ⟶	8
9 ⟶	16 c
16 ⟶	16
17 ⟶	32 c

1, 2, 4, 8, 16, 32

$$\left(\frac{N}{1}\right) + \frac{N}{2} + \frac{N}{4} + \frac{N}{8} + \ldots + \left(\frac{N}{N}\right) = 2N$$

$$\frac{1}{}$$

$$\frac{32}{1} + \frac{32}{2} + \frac{32}{4} + \frac{32}{8} + \frac{32}{16} + \frac{32}{32}$$

$$32 + 16 + 8 + 4 + 2 + 1 = 63$$

Amortized

1
2
5
8
10

} 100 ft

$10 + 8 + 5 + 2 + 1 = 26 \ D$

$26D \longrightarrow 100 \ ft$

$\therefore \ 1D \longrightarrow \dfrac{100}{26} \approx 4 \ ft$