

* Counting Sort *

→ Let there be an array of elements with **max value** "**m**" (**arr**)

→ Create an other **array of zeros** with **Size** "**m+1**" (**count-arr**)

→ Parse through the array (**arr**); based on the value **increment** that particular index **value in count-arr**

→ Use **non zero elements in count-arr** to build the **Sorted-arr**.

example: $arr = [1, 2, 1, 3, 2]$

→ Here **max value** is **3**, $count_arr = [0, 0, 0, 0]$

i	arr[i]	count-arr
0	1	[0 1 0 0]
1	2	[0 1 1 0]
2	1	[0 2 1 0]
3	3	[0 2 1 1]
4	2	[0 2 2 1]

Now: count-arr ⇒ [0, 2, 2, 1]	
i	C-a[i]
0	0
1	2
2	2
3	1

$\left[\begin{array}{c} 1^*2 \\ 1^*2 \end{array} \right] \begin{array}{c} 2^*2 \\ 3^*1 \end{array}$
 $\left[\begin{array}{c} 1, 1, 2, 2, 3 \end{array} \right]$
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