Circular Queue :

-> Limitation of linear queue :
   -> Dequeuing leaves vacant spaces behind, so, space is not used efficiently.

→ Circular queue:

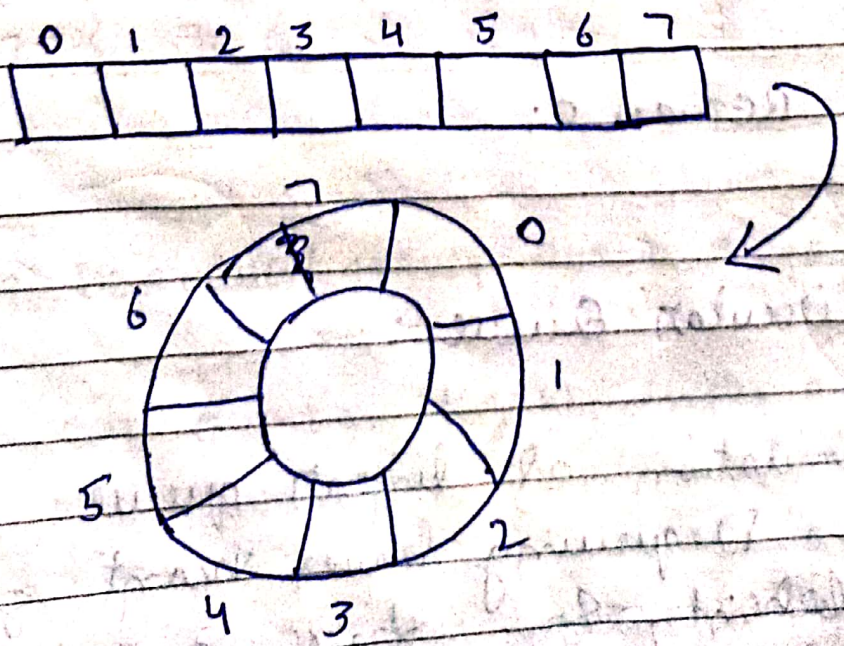
→ In circular queues, we mainly focus on the point that we don't increment our indices linearly. Linearly increasing indices cause the case of overflow when our index reaches the limit, which is SIZE-1.

In linear increment, i becomes i+1. But in a circular increment; i becomes (i+1)%.SIZE. This gives an upper cap to the maximum value making the index repeat ~~itself~~ itself.

Linear Increment : 0 1 2 3 4 5 ...

Circular Increment : 0 1 2 0 1 2 ...

(Let SIZE = 3)



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And this is the circular implementation of the same array we used to implement linearly. This allows the leftover spaces to be used again. This wheel type array is called the circular queue.