



# Solution Review: Generate Binary Numbers from 1 to n using Queue

In this lesson, we will do a solution review for the 'Generate Binary Numbers from 1 to n using Queue' challenge.

## We'll cover the following ^

- Solution: Using a Queue
- Time Complexity

## Solution: Using a Queue

main.py

DoublyLinkedList.py

Queue.py

```
1 from Queue import MyQueue
2
3
4 def find_bin(number):
5     result = []
6     queue = MyQueue()
7     queue.enqueue(1)
8     for i in range(number):
9         result.append(str(queue.dequeue()))
10        s1 = result[i] + "0"
11        s2 = result[i] + "1"
12        queue.enqueue(s1)
13        queue.enqueue(s2)
```

```
14
15     return result # For number = 3 , result = {"1","11","111"}
16
17
18 print(find_bin(2))
19
```



Start with Enqueuing **1**. Dequeue a number from the queue, append **0** to it, and enqueue it back to queue. Perform the second step, but with appending **1** to the original number and enqueue back to the queue. **The size of Queue should be 1 more than the number** because, for a single number, we're enqueueing two variations of it, one with appended 0 while the other with 1 being appended.

## Time Complexity

The time complexity of this solution is in  $O(n)O(n)$  as constant-time operations are executed for  $n$  times.

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Challenge 1: Generate Binary Number...

Challenge 2: Implement Two Stacks '  Completed

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