

Number of One Bits:

- Bit manipulation
- Need to find the number of ones in the bit representation of a number

23 23 & 1 ← check first bit if 1, if true count++ & shift
time ($\log_2(n)$) space ($O(1)$)

①

2^6	2^5	2^4	2^3	2^2	2^1	2^0
64	32	16	8	4	2	1
		<u>16</u>	8	4	2	1
			24	20	22	23✓
			16			
			+ 4			
			+ 2			
			+ 1			
			<u>23</u>			

1 0 1 1 1 = 23

② Now how do we get the number of 1?

Bit manip

<< leftshift → 101110 essentially * 2

>> right shift → 1011 11

&

1