Check Kth Bit

Check K^{th} Bit

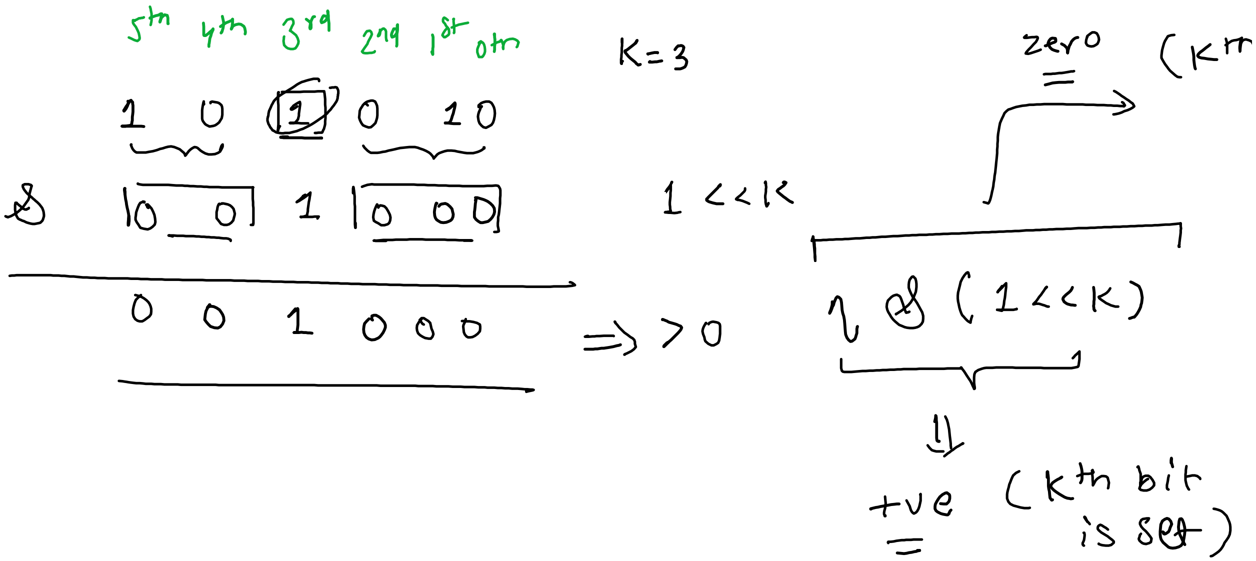
Given a non-negative integers **N**, design an algorithm check if its **K^{th}** bit is set or not.

Example

Input : N = 42, K = 3
Output : true

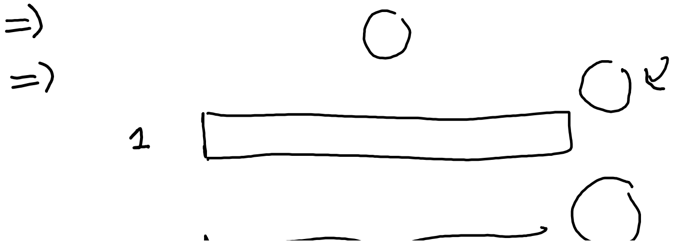
Input : N = 42, K = 4
Output : false

5^{th}	4^{th}	3^{rd}	2^{nd}	1^{st}	0^{th}
1	0	1	0	1	0



N=42, K=3

N=42, K=4



	5th	4th	3rd	2nd	1st	0th
N	1	0	1	0	1	0
N >> K	0	0	0	1	0	1
	0	0	0	0	0	1
&	0	0	0	0	0	1

(n >> k) & 1

1 =

0 =

kth bit is set

	5th	4th	3rd	2nd	1st	0th
N	1	0	1	0	1	0
N >> K	0	0	0	0	1	0
	0	0	0	0	0	1
&	0	0	0	0	0	0

kth bit not set

N=42, K=3

N=42, K=4

	5th	4th	3rd	2nd	1st	0th
1	0	0	0	0	0	1
1 << K	0	0	1	0	0	0
N	1	0	1	0	1	0
&	0	0	1	0	0	0

⇒

2k

	5th	4th	3rd	2nd	1st	0th
	0	0	0	0	0	1
1 << K	0	1	0	0	0	0
N	1	0	1	0	1	0
&	0	0	0	0	0	0