

B. New Year's Number

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

Polycarp remembered the 2020-th year, and he is happy with the arrival of the new 2021-th year. To remember such a wonderful moment, Polycarp wants to represent the number n as the sum of a certain number of 2020 and a certain number of 2021.

For example, if:

- $n = 4041$, then the number n can be represented as the sum $2020 + 2021$;
- $n = 4042$, then the number n can be represented as the sum $2021 + 2021$;
- $n = 8081$, then the number n can be represented as the sum $2020 + 2020 + 2020 + 2021$;
- $n = 8079$, then the number n cannot be represented as the sum of the numbers 2020 and 2021.

Help Polycarp to find out whether the number n can be represented as the sum of a certain number of numbers 2020 and a certain number of numbers 2021.

Input

The first line contains one integer t ($1 \leq t \leq 10^4$) — the number of test cases. Then t test cases follow.

Each test case contains one integer n ($1 \leq n \leq 10^6$) — the number that Polycarp wants to represent as the sum of the numbers 2020 and 2021.

Output

For each test case, output on a separate line:

- "YES" if the number n is representable as the sum of a certain number of 2020 and a certain number of 2021;
- "NO" otherwise.

You can output "YES" and "NO" in any case (for example, the strings `yEs`, `yes`, `Yes` and `YES` will be recognized as positive).

Example

input
5 1 4041 4042 8081 8079
output
NO YES YES YES NO