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 ($1 \le t \le 10^4$) — the number of test cases. Then t test cases follow.

Each test case contains one integer n ($1 \le n \le 10^6$) — 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
```

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