Problem of the Week
Problem D
A Big Leap

Most people think of a year as 365 days, however it is actually slightly more than 365 days. To account for this extra time we use leap years, which are years containing one extra day.

Mara uses the flowchart shown to determine whether or not a given year is a leap year. She has concluded the following:

- 2018 was not a leap year because 2018 is not divisible by 4.
- 2016 was a leap year because 2016 is divisible by 4, but not 100.
- 2100 will not be a leap year because 2100 is divisible by 4 and 100, but not 400.
- 2000 was a leap year because 2000 is divisible by 4, 100, and 400.

If Mara chooses a year greater than 2000 at random, what is the probability that she chooses a leap year?