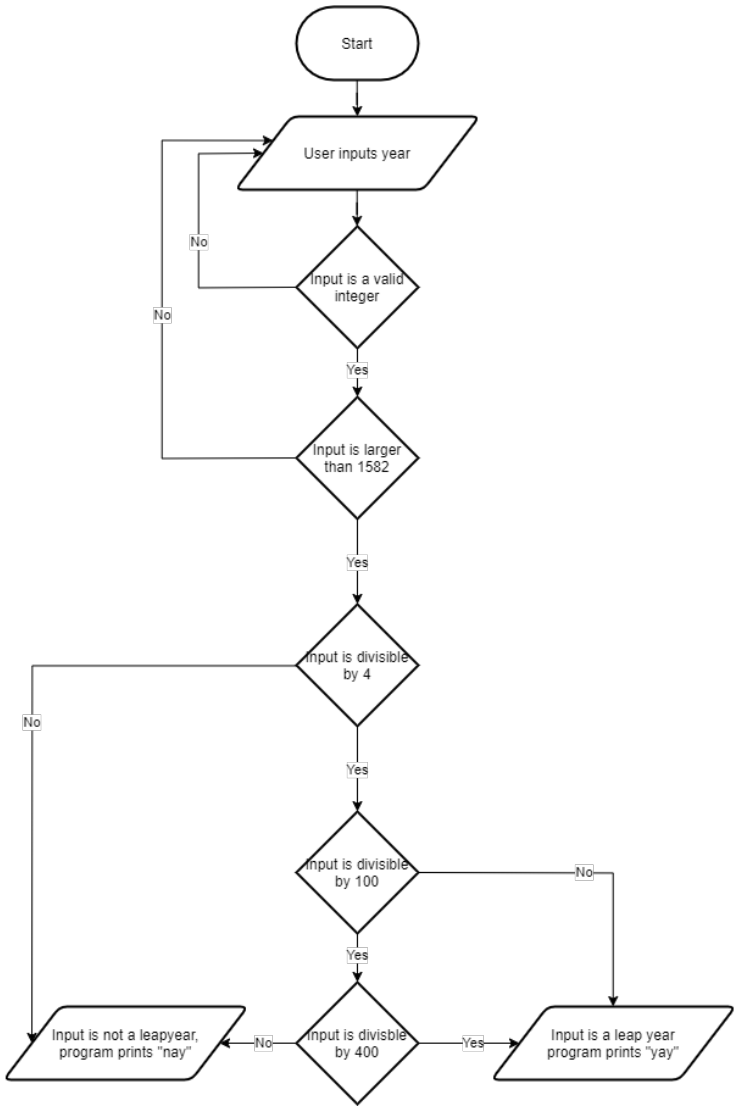
Anne M. Bartholdy-Falk September 10th 2021

Analysis, Design and Software Architecture
Assignment00

The algorithm used by the accompanying program to determine whether a given user input is a leap year is illustrated by the figure seen on the next page. When the program starts, the user is prompted to enter a year, which is at first ensured to be a valid integer representing a year after 1582. If the input has a wrong format or is earlier than 1582, the user will be prompted to enter a new year.
It is then determined whether the input year is divisible by 4. If not, it cannot possibly be a leap year and the program ends. If it is divisible by 4, the next check is whether the input year is divisible by 100. If not, the input year will be identified as a leap year and the program ends. If it is divisible by 100, there is one last check of whether the input year is divisible by 400. If true, the year is indeed a leap year and if not it is not a leap year, and in both cases the program will end right after the identification is made.


Start
User inputs year
Input is a valid integer
No
No
Yes
Input is larger than 1582
Yes
Input is divisible by 4
No
Yes
Input is divisible by 100
No
Yes
Input is not a leapyear, program prints "nay"
No
Input is divisble by 400
Yes
Input is a leap year program prints "yay"