

Documentation

Anders Arvesen

September 2022

1 Description of leap year algorithm

The `takeInput()`-function is called from `main`, and defines a variable called `notAValidYear` which is assigned the value `false`. It is used to determine if the user has given a correct input, and that the program has given a correct response. If not, the program will keep asking for input using a while-loop. A print statement prompts the user to type a in year. If the input can be converted to an int, the program will call the function `isLeapYear(int year)`, passing the int as a parameter. If not, an error message will be printed to the console, informing the user that the input must be an positive integer, and the while-loop will reset. If `isLeapYear()` returns true, the message "yay" will be printed to the console. Otherwise the the message "nay" will be printed.

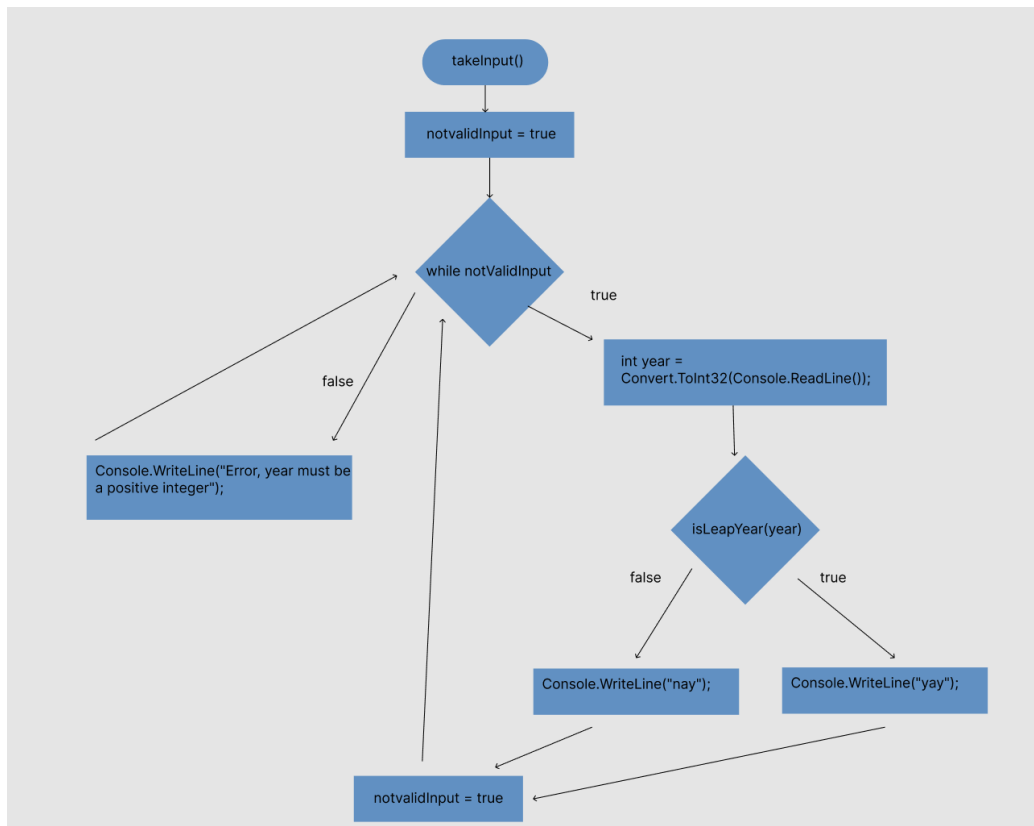


Figure 1: Control-flow of `takeInput()`.

The `isLeapYear(int year)`-function will start by checking if the year is a positive integer. If yes, the function will check if the year is earlier than 1582. If true, the function returns false. If the year is after 1582, the algorithm checks if the year is divisible by 400. If yes, the function returns true. If false, the function checks if the year is divisible by 4. If false, the function returns false. If true, the function checks if the year is divisible by 100. If true, the function returns false. If false, the function returns true.

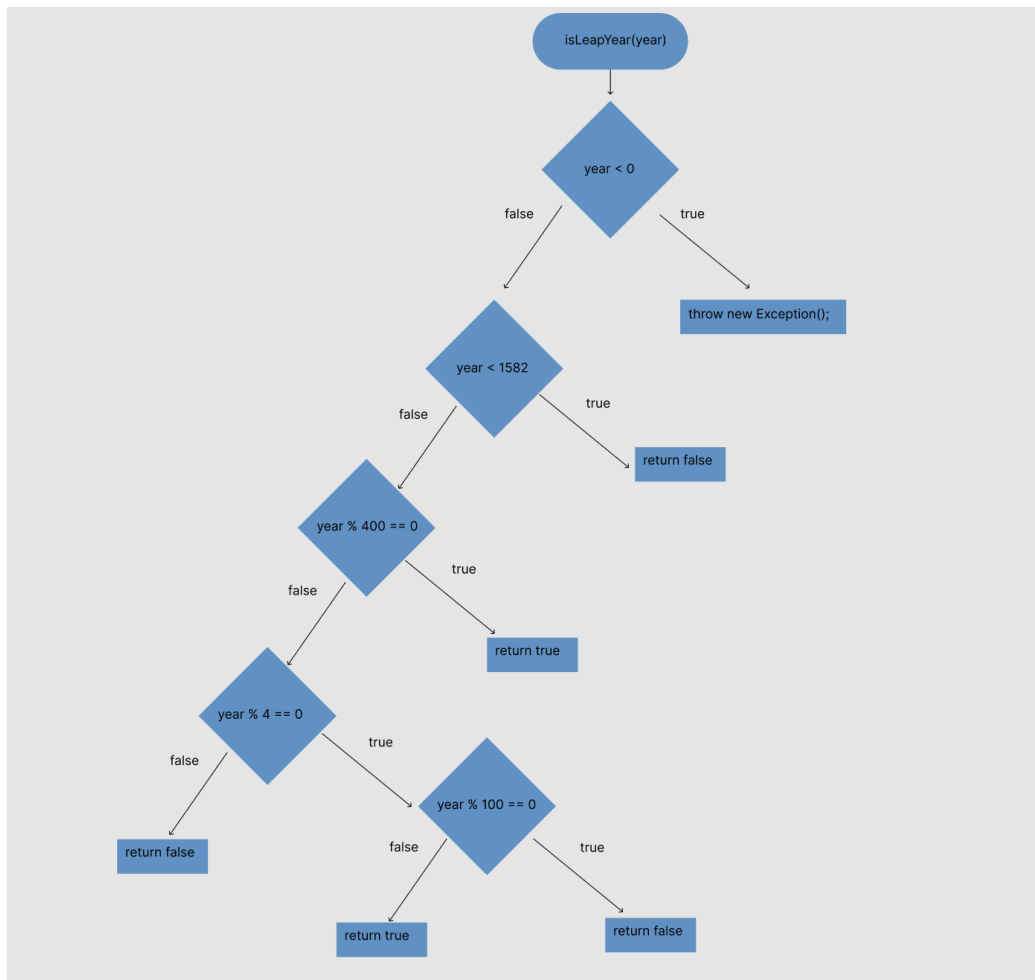


Figure 2: Control-flow of `isLeapYear(int year)`