

# BDSA exercise00

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## 1 The fabled LeapYear algorithm

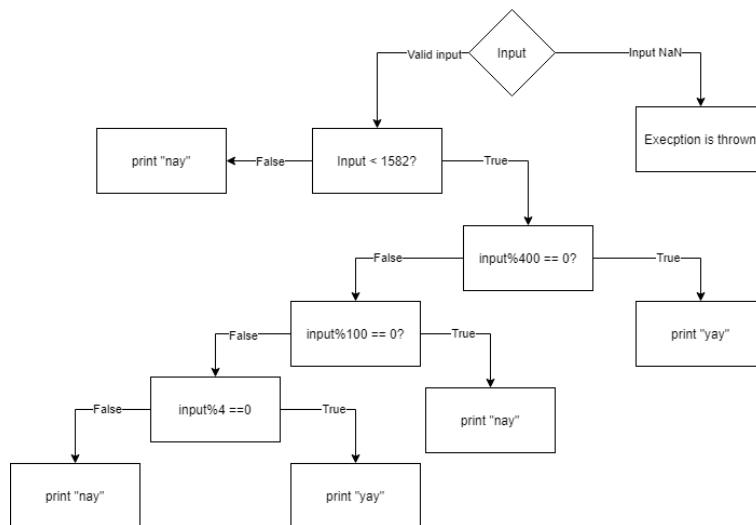


Figure 1: Diagram over LeapYear-algoritmen

The LeapYear algorithm tells whether or not the year that we feed it is a Gregorian leap year or not. It does so by checking a range of parameters and determining and then determines whether or it is a Gregorian leap, telling us so by printing *nay* for it is not a Gregorian leap year and *yay* if it is a Gregorian leap year. The parameters consist of if statements that make up the bulk of the algorithm. The algorithm first checks if the year entered is divisible by 400 or not. In case it is, the year entered is a Gregorian leap year, and if it is not we move on to the next check. The next check is an if statement that checks if the entered year is divisible by 100. If it is divisible by 100, and not 400, it is not a Gregorian leap year. If it is not divisible by 100 we then move on to our last check. The last if statement checks whether or not the entered input is divisible

by 4, if it is, it is a Gregorian leap year. We can determine that as we have already examined whether or not it is divisible by 100, as that is a stronger rule. If it is not divisible by 4, then it is not a Gregorian leap year. The algorithm checks are ordered in such a manner that the strongest rules are first, as they determine whether or not the subsequent checks are relevant. Q.E.D :)