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Assignment 00

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Documentation

The algorithm of the `IsLeapYear`-function consists of two nested `if`-statements. Since the general rule of leap years state that a year is a leap year if it is divisible by exactly 4, the outer statement checks whether the provided integer is divisible by 4. If the provided number is not divisible by 4 the function returns a `boolean` with a `false` value.

The inner `if`-statement checks if the provided year satisfies the exception to the general rule that the year is not a leap year if it **is** divisible by 100 **and not** by 400. This is done by using the logical operator AND (`&&`). The `if`-statement first checks if the number is divisible by 100. If this check evaluates to false the exception to the rule is not satisfied and the function returns a `boolean true` value indicating that the year is a leap year.

If the first check evaluates to true, the second part of the expression if checked. If the number is **not** divisible by 400, the entire expression evaluates to true and the exception to the leap year rule is satisfied so the function returns a `false`-value indicating that the year is not a leap year. In turn, if the second part evaluates to true, i.e. the year is divisible by 400, the expression evaluates to false and the function returns a `true`-value.

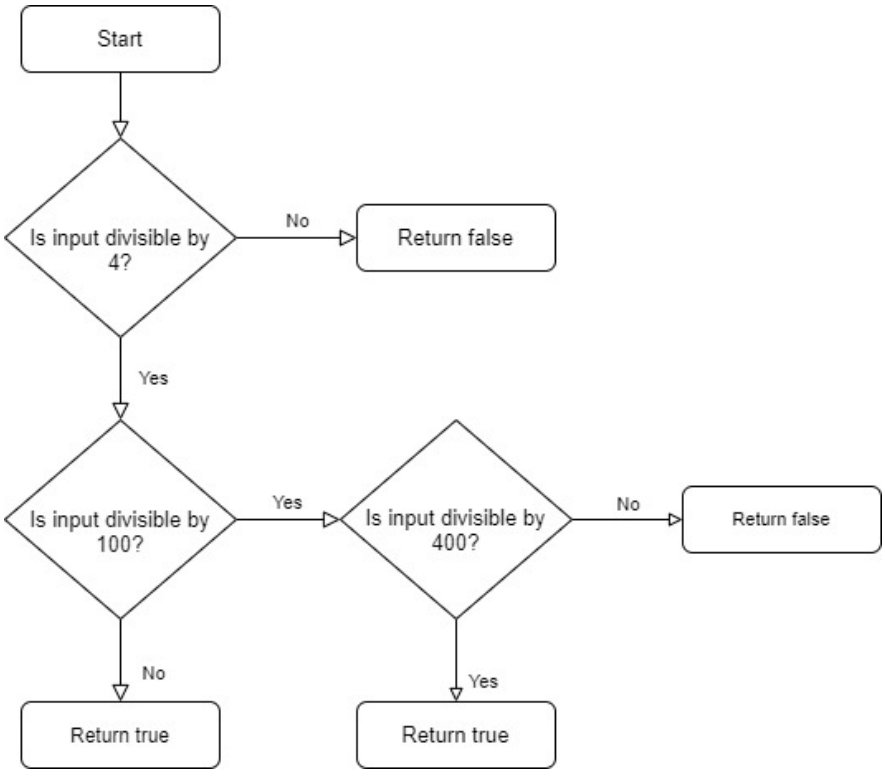

Figure 1: Visualization of the algorithm of IsLeapYear-function