BDSA - Assignment 0 - Is leap year

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1 Algorithms

1.1 Is Leap Year

1.1.1 Illustration

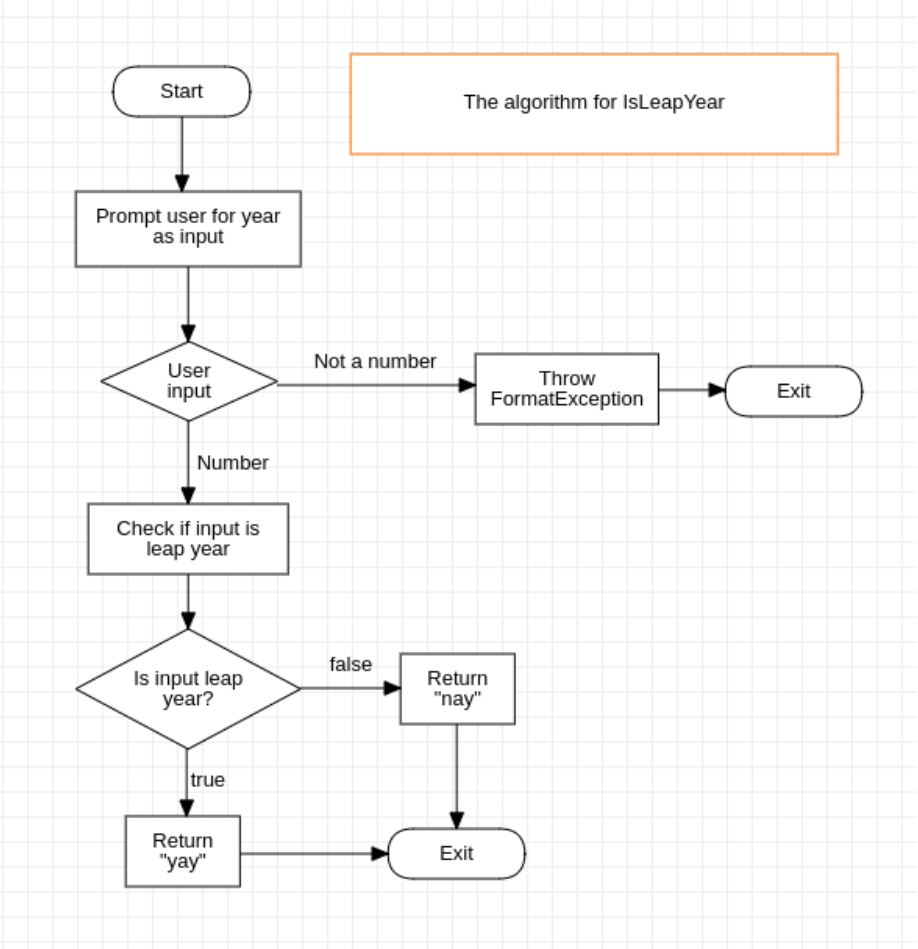

Figure 1: IsLeapYear algorithm

1.1.2 Explanation

The algorithm's(Fig. 1) purpose is to prompt a user for a leap year and then return a response confirming whether it is or not.
It starts with the user running the application in the top of Fig. 1.
(1)They're prompted to give an input. (1)If that input is anything but a num-

ber, the application throws a FormatException explaining the error, and then proceeds to exit the program.
(1) If the input is a number, the application proceeds to check if the given number is in fact a leap year.

The underlying algorithm for checking if a year is a leap year is:

> Every year that is exactly divisible by four is a leap year, except for years that are exactly divisible by 100, but these centennial years are leap years if they are exactly divisible by 400. For example, the years 1700, 1800, and 1900 are not leap years, but the years 1600 and 2000 are.

(2)If the year is not leap year, it will return a negative response: "nay", and then exit the application.
(2)If the year is a leap year, it will in turn give the positive response: "yay", and then exit the application.