BDSA Assignment 0

Alexander Jacobsen (alja@itu.dk)

September 2021

1 Documentation

1.1 Description

The *Main* method is run, which starts a while loop. In this loop, user input is collected using *Console.ReadLine()* which reads from STDIN. The string returned is parsed using *Convert.ToInt32()* and exceptions such as *FormatException* and *OverflowException* are handled in a try-catch clause. If an exception is caught the error message "Input must be a valid year after 1582" is printed to STDOUT. If a valid integer is given, the *IsLeapYear* method is called with the input as an argument. This defines the variable *year* and is checked to see if it is before the year 1582, since this is where leap years were established. If the year is below this value, an *ArgumentOutOfRangeException* is thrown and caught in the previous try-catch, which then results in the error message being displayed. If the year is valid, it can be determined whether it is a leap year or not. This is done by checking if it is divisible by 4 and not divisible by 100, or that it is divisible by 400. This is done using the modulo operator, which returns the remainder after a division. The *IsLeapYear* method returns *true* if it is a leap year and *false* if it is not. Finally, respectively of the returned value "yay" or "nay" is printed and the loop repeats.

1.2 Flowchart