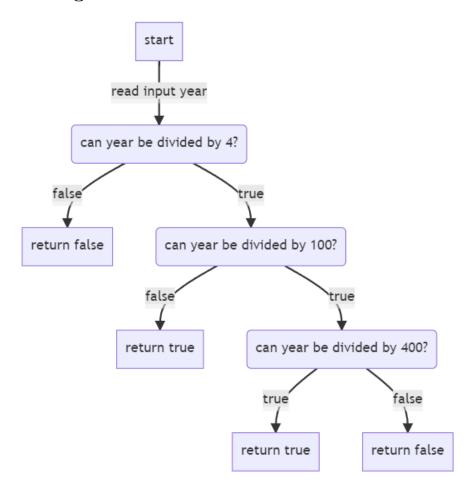# Assignment 0
BDSA 2022

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Link for source code - Github Assignment 0

1 Diagram

```
                    ┌─────────┐
                    │  start  │
                    └─────────┘
                         │ read input year
                         ▼
              ┌───────────────────────────┐
              │  can year be divided by 4? │
              └───────────────────────────┘
           false │                    │ true
                 ▼                    ▼
        ┌──────────────┐   ┌────────────────────────────┐
        │ return false │   │ can year be divided by 100? │
        └──────────────┘   └────────────────────────────┘
                           false │              │ true
                                 ▼              ▼
                        ┌─────────────┐  ┌─────────────────────────────┐
                        │ return true │  │ can year be divided by 400? │
                        └─────────────┘  └─────────────────────────────┘
                                         true │             │ false
                                              ▼             ▼
                                     ┌─────────────┐  ┌──────────────┐
                                     │ return true │  │ return false │
                                     └─────────────┘  └──────────────┘
```

2 Documentation

The function IsLeapYear takes an integer as input and then checks if that integer can be divided by 4. If the integer is dividable by 4 then it checks if the integer also is dividable by 100. If it can not be divided by 100 then we know that the year is a leap year and the function returns true. But if it is dividable by 100 then it can only be a leap year if it also is dividable by 400. Therefore the function returns true if it can be divided by 400 and false if it can not.