# R Program to Check for Leap Year

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This program checks whether an year (integer) entered by the user is a leap year or not.

To understand this example, you should have the knowledge of following R programming topics:

- R if...else Statement
- R Operators

A leap year is exactly divisible by 4 except for century years (years ending with 00). The century year is a leap year only if it is perfectly divisible by 400.

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## Example: Check Leap Year

```
# Program to check if the input year is a leap year or not
year = as.integer(readline(prompt="Enter a year: "))
if((year %% 4) == 0) {
if((year %% 100) == 0) {
if((year %% 400) == 0) {
print(paste(year,"is a leap year"))
} else {
print(paste(year,"is not a leap year"))
}
} else {
print(paste(year,"is a leap year"))
}
} else {
print(paste(year,"is not a leap year"))
}
```

### Output 1

```
Enter a year: 1900
[1] "1900 is not a leap year"
```

### Output 2

```
Enter a year: 2000
[1] "2000 is a leap year"
```

If a year is divisible by 4, 100 and 400, it's a leap year.

If a year is divisible by 4 and 100 but not divisible by 400, it's not a leap year.

If a year is divisible by 4 but not divisible by 100, it's a leap year.

If a year is not divisible by 1, it's not a leap year.

This logic is implemented in the above program using nested `if...else` statement.