Q. Program for leap year & non leap year

⇒
```
a = int(input("Enter positive integer"))
if (a%4 == 0 and a%100 != 0) or (a%400 == 0):
        print("Leap year")

else:
        print("non leap year")
```

Explaination

Mathematically, a year is considered as leap year if it is divisible by 4 and remainder is 0, but the problem arise for century year i.e. 2000, 2100, 2200, 3000, ... etc. Some century year divisible by 4 but not leap year. Eg. 2100, 2200, 2300, 2500, etc.

But, the century year which are divisible by 400 are found to be leap year.

So two condition necessary for leap year

① Year which is divisible by 4 and it is not a century year.		② Year which is century year but only divisible by 400.
	or	
∴ a%4 == 0 and a%100 != 0		∴ a%400 == 0

If any one condition is true then it is leap year.