

Mathematica has a function that will decide if a number is an integer or not.

```
IntegerQ[Pi]
```

```
False
```

In class we translated the definition of a leap year into a logical statement involving the IntegerQ function. Now we can program that into *Mathematica*. We make it a *Mathematica* function which we call LeapQ.

```
LeapQ[y_] := Or[And[IntegerQ[ $\frac{y}{4}$ ], Not[IntegerQ[ $\frac{y}{100}$ ]]], IntegerQ[ $\frac{y}{400}$ ]]
```

Next we test our function.

```
LeapQ[2014]
```

```
False
```

```
LeapQ[2016]
```

```
True
```

```
LeapQ[2100]
```

```
False
```

```
LeapQ[2000]
```

```
True
```