

Type Inference



What the compiler knows

```
val message = "Hello, world!"
```

...so this value is
also a **String**!

this is a **String**...

```
val x = 2  
val y = x + "items"
```

an **Int**, so x is an **Int**

Int + String = String

...so y is a **String**!

```
val message: String = "Hello, world!"
```

The compiler infers the type from the right hand side!

```
val x: Int = 2  
val y: String = x + "items"
```

What the compiler *also* knows

```
def succ(x: Int) = x + 1
```

this is an **Int**...
...so the return type is **Int** !

```
def succ(x: Int): Int
```

The compiler infers the return type
from the implementation

But don't try to fool it:

```
val x: Int = "Hello, world!"
```

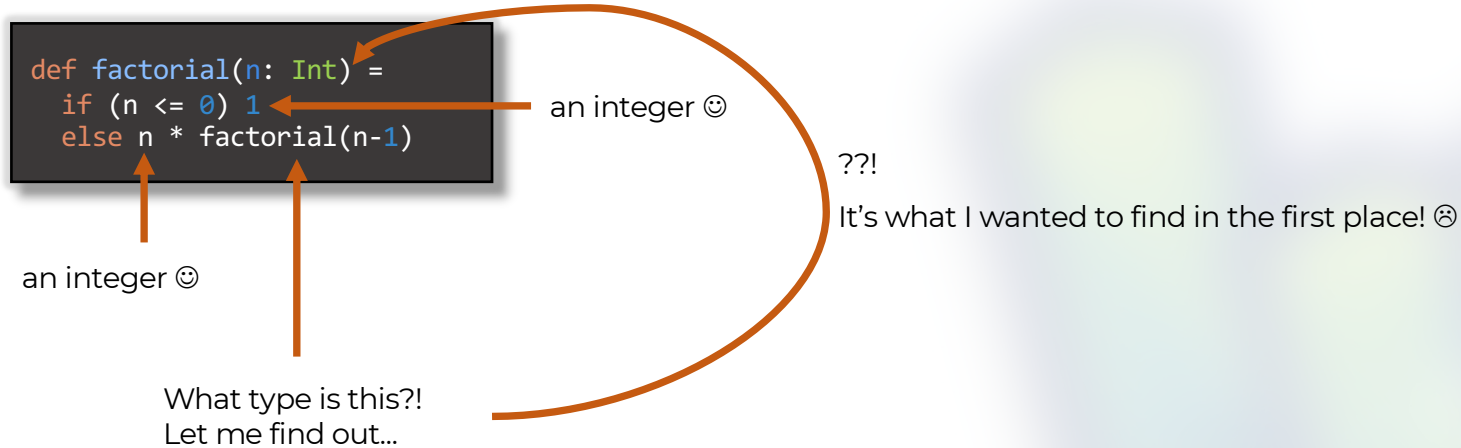
an **Int**

a **String**

?!

type mismatch

Help the compiler



Takeaway: for recursive functions, always specify the return type!
(as best practice: always specify the return type regardless)

Scala rocks

