

# 2 kinds of programming languages

static vs. dynamic  
typing



What's dynamic / static typing?

Example: TypeScript

Why should I (not) use static  
typing?

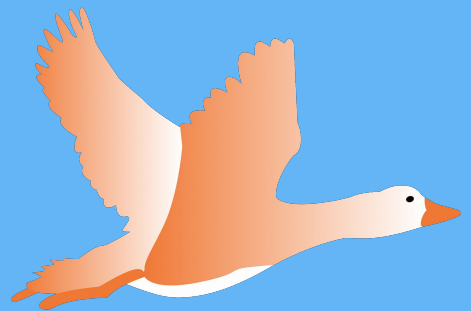
# Hello!

## I'm Simon Knott

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I'm the creator of [ente.app](https://ente.app)  
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  @skn0tt

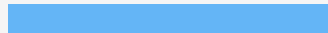


1.

What's  
*“typing”*,  
anyway?

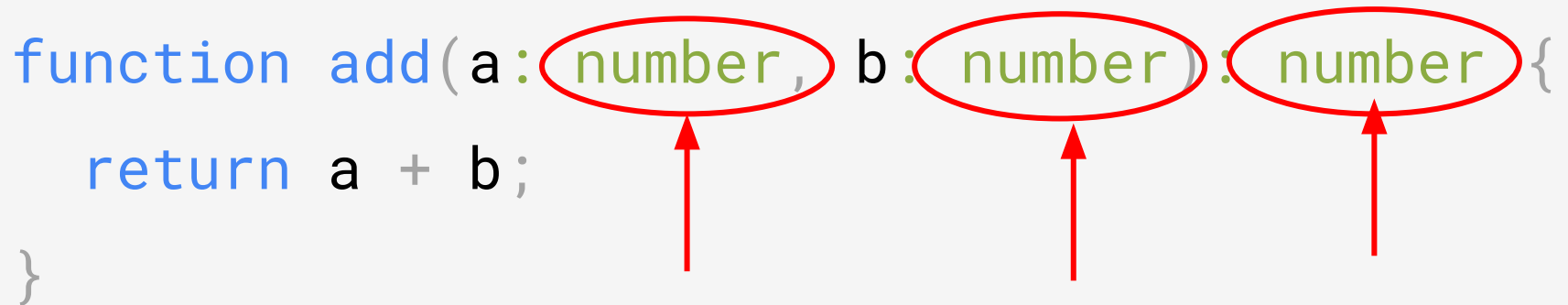
```
function add(a, b) {  
    return a + b;  
}
```

```
const favNumber = add(31, 11);
```



dynamically typed

```
function add(a: number, b: number): number {  
    return a + b;  
}
```



```
const favNumber: number = add(31, 11);
```



statically typed

○ ○ ○

```
class Car {  
    int numberOfTires;  
    Color bodyColor;  
    Person owner;  
  
    Car() { ... }  
  
    void drive() {  
        if (!owner.hasDriversLicense()) {  
            throw IllegalDrivingException();  
        }  
        ...  
    }  
}
```

# 2.

Example:  
TypeScript





# Demo Time!



```
let rec greyCode bitlength =  
    if bitlength = 1  
    then [ "0"; "1" ]  
    else  
        let g = greyCode (bitlength - 1)  
        let a = List.map ((+) "0") g  
        let b = List.map ((+) "1") g  
        a @ List.rev b
```

3.

What's better?



“It  
depends.”

~ every answer to a complex problem, ever.

# Static



- helps you finding errors
- makes experimenting harder
- small executables
- compile-time optimization

Quality!

# Dynamic

- may break in runtime
- easy to experiment
- small source code  
(JS on mobile connection!)

Prototyping!

TypeScript

JavaScript

Java

Python

Kotlin

Groovy

F#



Some languages to try out

# Any Questions?