

Type systems check basic properties of languages

- Operations will succeed
 - $X + Y$
- Evaluator will always be able to take a step (progress)
 - $E[v] = E'[v']$

Linear types? Dependant types? Etc.

More powerful checking exists: contracts

- Dynamic
- Turing complete

```
(define (foo [x int?]) ...)  
(define (int? value) ...)
```

Needed: compile time system and a restricted set of type operators

Key Idea: macros and type combinators

```
(define (foo x) ...) → (define foo (check-args x sub-type) ...)
```