Joy of Solving Problems Using Clojure

Rediscover the joy of programming

Tamizhvendan S

🎩 Pragmatic, Polyglot and Passionate software craftsman

🎓 Founder of Learn CS in Tamil and Kalvify

☁️ Solopreneur

💬 Open Source Developer

🤠 www.tamizhvendan.in

What is Programming?

A two-mark question!

What is Programming?

The forgotten answer :(

Art of **communicating** with a computer to **solve** a **meaningful problem**

Is Programming Art?

Thank god, it's not science :)

Is Programming Communicating?

To the computer, co-workers and future self

Art of Communication

கண்டேன் சீதையை

தீதும் நன்றும் பிறர் தர வாரா

தெய்வத்தான் ஆகா தெனினும் முயற்சிதன்
மெய்வருத்தக் கூலி தரும்.

Programming is Communication

Given a list of integers, print its square values

Solution #1

Imperative Thinking

```javascript
const numbers = [1, 2, 3, 4, 5];

for (let i = 0; i < numbers.length; i++) {
  const squareValue = numbers[i] * numbers[i];
  console.log(squareValue);
}
```

Solution #2

Functional Thinking

```javascript
const numbers = [1, 2, 3, 4, 5];
numbers.map(n => n * n).forEach(n => console.log(n))
```

Clojure

```clojure
(let [numbers [1 2 3 4 5]]
  (run! println (map (fn [n] (* n n)) numbers)))
```

Languages influence your thinking

Thinking influence your communication

Clojure

It's not about a new syntax, It's about learning a different way of thinking!

"It is better to have 100 functions operate on one data structure than 10 functions on 10 data structures" - Alan Perlis
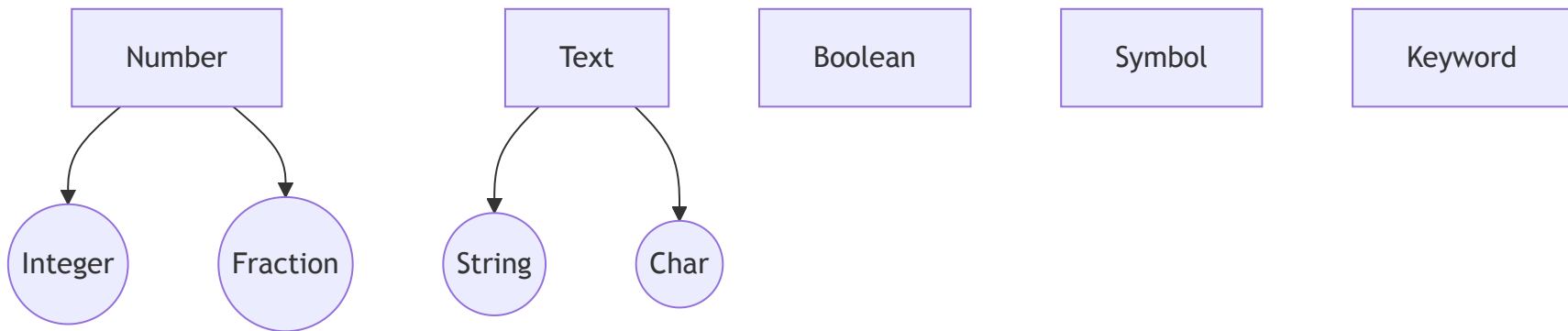
Clojure - A Short Tour

The forgotten basic

Input → Program → Output

The Input & Output

It's all data

Atomic Data Types

| Number | | Text | | Boolean | Symbol | Keyword |

Integer — Fraction — String — Char

Collection Data Types

Vector — List — Map — Set