

## Op language (unfinished yet)

### What is Op ?

Op is a language based on operator.

I call it operator but in fact you can see them just as function with infix notation.

It's a project used to learn more about lexing, parsing, interpreting, compiling and isn't focused on being practical.

For now, Op is a interpreted language in Ocaml.

I'm open to all kind of thought you can have on this project, you can contact me on :

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### Objectives (features) :

- Make a usable language
- Being able to set precedence of operators
- Being able to create operators with infix notation and use regex to declare operator (see : examples)
- ( A feature to add and remove parameters and so change arity of an operator is an idea but isn't a priority and at state of pure thinking for now )

### Examples

read notice for detail (not done yet)

#### Fibonnaci function

```
fibo n -> n <= 1 ? 1 : fibo (n-1) + fibo (n-2)
```

#### Iter function

```
iter <- i <- i+1
k <- 0
iter >> k ** k <= 5

// Declare iter function
// Initialize variable k to 0
// While k is lower or equal to 5, iter k
```

#### Thought example

```
{ ([a\]+*\[b\]) + } <- ((
  + !< 2
  \* !< 3
```

```

        a.i + b.i * a.(i+1) + b.(i+1) ** i < (a.len - 1)
    ))

var <- 1 +* 2 +* 3 +* 4
$var

// Declare a regex operator with the pattern (value +* value)+
// Reassign '+' precedence to 2 (3 by default)
// Reassign '' precedence to 3 (2 by default)
// So now + has a higher priority than
// Sum each couple of a and b and multiply all of them
// Call it and put the result in var
// Print the content of var :  $1 + 2 * 3 + 4 = 3 * 7 = 21$  (don't forget assignment
of precedence)

```

## TODO :

- Project :
  - Add documentation
- Parsing :
  - Change list type to enable adding at end in  $O(1)$
  - Add panic mode to parser to handle multiple error