Ruby勉強会@関西-17 「関数型言語Ruby(2)」配布資料

氏久 達博

2007-07-14

1 サンプルコード

1.1 Hello, World!

```
main = lambda { puts "Hello, World!" }
main[]
```

1.2 足し算

```
add = lambda {|n| lambda {|m|
  lambda { n + m }
}}
main = lambda { puts add[3][5][] }
main[]
```

1.3 (f.rb)

```
# f.rb
class Proc
  def to_ary
    [call(nil)]
  end

  def inspect
    call nil
  end
end
```

1.4 足し算 (2)

```
require 'f'
require 'add'
main = lambda { puts add[3][8] }
main[]
```

1.5 sum

```
require 'f'
sum = lambda {|list|
  if list == [] then 0
  else i, is = list[0], list[1..-1]; i + sum[is]
  end
}

main = lambda { print sum[ [1,2,3,4,5] ] }
main[]
```

1.6 cohi Hello, World!

```
require 'rubygems'
require 'cohi'
require 'cohi/prelude'
include Cohi

define(:main) {
  put_str_ln["Hello, World!"]
}
main[]
```

1.7 cohi sum

```
require 'rubygems'
require 'cohi'
require 'cohi/prelude'
include Cohi

define(:mysum, [[]  ]) {        0 }
define(:mysum, [X_XS]) {|x, xs| x + mysum[xs] }
define(:main) {
  list = [1,2,3,4,5]
  put_str_ln[mysum[list]]
}
main[]
```

2 演習問題

1. cohi を用いずに map を実装
2. cohi を用いて map を実装
   例: `mymap[succ, [1,2,3]] #=> [2,3,4]`
3. cohi を用いて prod を実装
   積を出力。例: `prod[[1,2,3,4,5]] #=> 120`