Fn Module

smlhelp.github.io – SMLNJ Basis Documentation

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June 2021

Contents

This documentation covers the behavior of the `Fn` module – part of the SMLNJ Basis – as it appears in SMLNJ v110.99. Other versions of SMLNJ may have slightly different versions of `Fn`. All the values and types below are used as if the `Fn` structure has been opened. If this is not the case, then they must be prefaced with `Fn.` – except for `op o`.

1 Specification

Value Spec

```
id : 'a -> 'a
```

REQUIRES: true

ENSURES: `id x` ≅ `x`

Value Spec

```
const : 'a -> 'b -> 'a
```

REQUIRES: true

ENSURES: `const x` is the function which evaluates to `x` on every input. I.e. `const x y` ≅ `x` for all values `y`.

Value Spec

```
apply : ('a -> 'b) * 'a -> 'b
```

REQUIRES: true

ENSURES: `apply(f,x)` ≅ `f(x)`

Value Spec

```
(op o) : ('b -> 'c)*('a -> 'b) -> 'a -> 'c
```

REQUIRES: true

ENSURES: `(g o f)(x)` ≅ `g(f(x))`

Value Spec

`curry : ('a * 'b -> 'c) -> 'a -> 'b -> 'c`

REQUIRES: true

ENSURES: `(curry f) x y` ≅ `f(x,y)`

Value Spec

`uncurry : ('a -> 'b -> 'c) -> 'a * 'b -> 'c`

REQUIRES: true

ENSURES: `(uncurry g)(x,y)` ≅ `g x y`

Value Spec

`flip : ('b * 'a -> 'c) -> 'a * 'b -> 'c`

REQUIRES: true

ENSURES: `(flip f)(x,y)` ≅ `f(y,x)`

Value Spec

`repeat : int -> ('a -> 'a) -> 'a -> 'a`

REQUIRES: `n` ≥ 0

ENSURES: `repeat n h x` evaluates to the result of applying `h` to `x`, `n` times. For instance, `repeat 0 h x` ≅ `x` and `repeat 3 h x` ≅ `h(h(h(x)))`

Value Spec

`equal : ''a -> ''a -> bool`

REQUIRES: true

ENSURES: `equal` ≅ `curry op=`

Value Spec

`notEqual : ''a -> ''a -> bool`

REQUIRES: true

ENSURES: `notEqual` ≅ `curry op<>`