Funcons-beta: Funcons-Index

The PLanCompS Project

`Funcons-beta/Funcons-Index/Funcons-Index.cbs`*

Computations

Types of computation

[*Funcon* computation-types]

*Suggestions for improvement: `plancomps@gmail.com`.
Issues: `https://github.com/plancomps/CBS-beta/issues`.

Normal computation

Flowing

[*Funcon* left-to-right
Alias l-to-r
Funcon right-to-left
Alias r-to-l
Funcon sequential
Alias seq
Funcon effect
Funcon choice
Funcon if-true-else
Alias if-else
Funcon while-true
Alias while
Funcon do-while-true
Alias do-while
Funcon interleave
Datatype yielding
Funcon signal
Funcon yielded
Funcon yield
Funcon yield-on-value
Funcon yield-on-abrupt
Funcon atomic]

Giving

[*Entity* given-value
Funcon initialise-giving
Funcon give
Funcon given
Funcon no-given
Funcon left-to-right-map
Funcon interleave-map
Funcon left-to-right-repeat
Funcon interleave-repeat
Funcon left-to-right-filter
Funcon interleave-filter
Funcon fold-left
Funcon fold-right]

Binding

[*Type* environments
Alias envs
Datatype identifiers
Alias ids
Funcon identifier-tagged
Alias id-tagged
Funcon fresh-identifier
Entity environment
Alias env
Funcon initialise-binding
Funcon bind-value
Alias bind
Funcon unbind
Funcon bound-directly
Funcon bound-value
Alias bound
Funcon closed
Funcon scope
Funcon accumulate
Funcon collateral
Funcon bind-recursively
Funcon recursive]

Generating

[*Type* atoms
Entity used-atom-set
Funcon initialise-generating
Funcon fresh-atom
Funcon use-atom-not-in]

Storing

[*Datatype* locations
Alias locs
Type stores
Entity store
Funcon initialise-storing
Funcon store-clear
Datatype variables
Alias vars
Funcon variable
Alias var
Funcon allocate-variable
Alias alloc
Funcon recycle-variables
Alias recycle
Funcon initialise-variable
Alias init
Funcon allocate-initialised-variable
Alias alloc-init
Funcon assign
Funcon assigned
Funcon current-value
Funcon un-assign
Funcon structural-assign
Funcon structural-assigned]

Linking

[*Datatype* links
Funcon initialise-linking
Funcon link
Funcon fresh-link
Funcon fresh-initialised-link
Alias fresh-init-link
Funcon set-link
Funcon follow-if-link]

Interacting

Input

[*Entity* standard-in
Funcon read]

Output

[*Entity* standard-out
Funcon print]

Abnormal computation

Terminating abruptly

[*Funcon* stuck
Entity abrupted
Funcon finalise-abrupting
Funcon abrupt
Funcon handle-abrupt
Funcon finally]

Failing

[*Datatype* failing
Funcon failed
Funcon finalise-failing
Funcon fail
Funcon else
Funcon else-choice
Funcon checked
Funcon check-true]

Throwing

[*Datatype* throwing
Funcon thrown
Funcon finalise-throwing
Funcon throw
Funcon handle-thrown
Funcon handle-recursively
Funcon catch-else-throw]

Returning

[*Datatype* returning
  Funcon returned
  Funcon finalise-returning
  Funcon return
  Funcon handle-return]

Breaking

[*Datatype* breaking
  Funcon broken
  Funcon finalise-breaking
  Funcon break
  Funcon handle-break]

Continuing

[*Datatype* continuing
  Funcon continued
  Funcon finalise-continuing
  Funcon continue
  Funcon handle-continue]

Controlling

[*Datatype* continuations
  Funcon continuation
    Entity plug-signal
  Funcon hole
  Funcon resume-continuation
    Entity control-signal
  Funcon control
  Funcon delimit-current-continuation
    Alias delimit-cc]

Values

Value Types

[*Type* values
Alias vals
Type value-types
Alias types
Type empty-type
Funcon is-in-type
Alias is
Funcon is-value
Alias is-val
Funcon when-true
Alias when
Type cast-to-type
Alias cast
Type ground-values
Alias ground-vals
Funcon is-equal
Alias is-eq]

Primitive values

Booleans

[*Datatype* booleans
Alias bools
Funcon true
Funcon false
Funcon not
Funcon implies
Funcon and
Funcon or
Funcon exclusive-or
Alias xor]

Integers

[*Type* integers
Alias ints
Type integers-from
Alias from
Type integers-up-to
Alias up-to
Type bounded-integers
Alias bounded-ints
Type positive-integers
Alias pos-ints
Type negative-integers
Alias neg-ints
Type natural-numbers
Alias nats
Funcon natural-successor
Alias nat-succ
Funcon natural-predecessor
Alias nat-pred
Funcon integer-add
Alias int-add
Funcon integer-subtract
Alias int-sub
Funcon integer-multiply
Alias int-mul
Funcon integer-divide
Alias int-div
Funcon integer-modulo
Alias int-mod
Funcon integer-power
Alias int-pow
Funcon integer-absolute-value
Alias int-abs
Funcon integer-negate
Alias int-neg
Funcon integer-is-less
Alias is-less
Funcon integer-is-less-or-equal
Alias is-less-or-equal
Funcon integer-is-greater
Alias is-greater
Funcon integer-is-greater-or-equal
Alias is-greater-or-equal
Funcon binary-natural

Floats

[*Datatype* float-formats
Funcon binary32
Funcon binary64
Funcon binary128
Funcon decimal64
Funcon decimal128
Type floats
Funcon float
Funcon quiet-not-a-number
Alias qNaN
Funcon signaling-not-a-number
Alias sNaN
Funcon positive-infinity
Alias pos-inf
Funcon negative-infinity
Alias neg-inf
Funcon float-convert
Funcon float-equal
Funcon float-is-less
Funcon float-is-less-or-equal
Funcon float-is-greater
Funcon float-is-greater-or-equal
Funcon float-negate
Funcon float-absolute-value
Funcon float-add
Funcon float-subtract
Funcon float-multiply
Funcon float-multiply-add
Funcon float-divide
Funcon float-remainder
Funcon float-sqrt
Funcon float-integer-power
Funcon float-float-power
Funcon float-round-ties-to-even
Funcon float-round-ties-to-infinity
Funcon float-floor
Funcon float-ceiling
Funcon float-truncate
Funcon float-pi
Funcon float-e
Funcon float-log
Funcon float-log10
Funcon float-exp

Characters

[*Type* characters
Alias chars
Datatype unicode-characters
Alias unicode-chars
Type unicode-points
Funcon unicode-character
Alias unicode-char
Funcon unicode-point
Alias unicode
Type basic-multilingual-plane-characters
Alias bmp-chars
Type basic-multilingual-plane-points
Type iso-latin-1-characters
Alias latin-1-chars
Type iso-latin-1-points
Type ascii-characters
Alias ascii-chars
Type ascii-points
Funcon ascii-character
Alias ascii-char
Funcon utf-8
Funcon utf-16
Funcon utf-32
Funcon backspace
Funcon horizontal-tab
Funcon line-feed
Funcon form-feed
Funcon carriage-return
Funcon double-quote
Funcon single-quote
Funcon backslash]

The null value

[*Datatype* null-type
Funcon null-value
Alias null]

Composite values

Sequences of values

[*Funcon* length
Funcon index
Funcon is-in
Funcon first
Funcon second
Funcon third
Funcon first-n
Funcon drop-first-n
Funcon reverse
Funcon n-of
Funcon intersperse]

Datatypes

[*Funcon* datatype-value
Funcon datatype-value-id
Funcon datatype-value-elements]

Tuples

[*Datatype* tuples
Funcon tuple-elements
Funcon tuple-zip]

Lists

[*Datatype* lists
  Funcon list
  Funcon list-elements
  Funcon list-nil
    Alias nil
  Funcon list-cons
    Alias cons
  Funcon list-head
    Alias head
  Funcon list-tail
    Alias tail
  Funcon list-length
  Funcon list-append]

Strings

[*Type* strings
Funcon string
Funcon string-append
Funcon to-string]

Vectors

[*Datatype* vectors
  Funcon vector
  Funcon vector-elements]

Bits and bit vectors

[*Type* bits
Datatype bit-vectors
Funcon bit-vector
Type bytes
Alias octets
Funcon bit-vector-not
Funcon bit-vector-and
Funcon bit-vector-or
Funcon bit-vector-xor
Funcon bit-vector-shift-left
Funcon bit-vector-logical-shift-right
Funcon bit-vector-arithmetic-shift-right
Funcon integer-to-bit-vector
Funcon bit-vector-to-integer
Funcon bit-vector-to-natural
Funcon unsigned-bit-vector-maximum
Funcon signed-bit-vector-maximum
Funcon signed-bit-vector-minimum
Funcon is-in-signed-bit-vector
Funcon is-in-unsigned-bit-vector]

Sets

[*Type* sets
Funcon set
Funcon set-elements
Funcon is-in-set
Funcon is-subset
Funcon set-insert
Funcon set-unite
Funcon set-intersect
Funcon set-difference
Funcon set-size
Funcon some-element
Funcon element-not-in]

Maps

[*Type* maps
Funcon map
Funcon map-elements
Funcon map-lookup
Alias lookup
Funcon map-domain
Alias dom
Funcon map-override
Funcon map-unite
Funcon map-delete]

Multisets (bags)

[*Type* multisets
Funcon multiset
Funcon multiset-elements
Funcon multiset-occurrences
Funcon multiset-insert
Funcon multiset-delete
Funcon is-submultiset]

Trees

[*Datatype* trees
Funcon tree
Funcon tree-root-value
Funcon tree-branch-sequence
Funcon single-branching-sequence
Funcon forest-root-value-sequence
Funcon forest-branch-sequence
Funcon forest-value-sequence]

Graphs

[*Type* directed-graphs
Funcon is-cyclic
Funcon topological-sort]

References and pointers

[*Datatype* references
  Funcon reference
    Type pointers
  Funcon dereference]

Records

[*Datatype* records
  Funcon record
  Funcon record-map
  Funcon record-select]

Variants

[*Datatype* variants
  Funcon variant
  Funcon variant-id
  Funcon variant-value]

Classes

[*Datatype* classes
  Funcon class
  Funcon class-instantiator
  Funcon class-feature-map
  Funcon class-superclass-name-sequence
  Funcon class-name-tree
  Funcon is-subclass-name
  Funcon class-name-single-inheritance-feature-map]

Objects

[*Datatype* objects
Funcon object
Funcon object-identity
Funcon object-class-name
Funcon object-feature-map
Funcon object-subobject-sequence
Funcon object-tree
Funcon object-single-inheritance-feature-map]

Abstraction values

Generic abstractions

[*Type* abstractions
Funcon abstraction
Funcon closure
Funcon enact]

Thunks

[*Datatype* thunks
Funcon thunk
Funcon force]

Functions

[*Datatype* functions
Funcon function
Funcon apply
Funcon supply
Funcon compose
Funcon uncurry
Funcon curry
Funcon partial-apply]

Patterns

[*Datatype* patterns
  Funcon pattern
  Funcon pattern-any
  Funcon pattern-bind
  Funcon pattern-type
  Funcon pattern-else
  Funcon pattern-unite
  Funcon match
  Funcon match-loosely
  Funcon case-match
  Funcon case-match-loosely
  Funcon case-variant-value]