

# Languages-beta: MiniJava-Funcons-Index \*

The P<sub>LAN</sub>CompS Project

MiniJava-Funcons-Index.cbs | PLAIN | PRETTY

## OUTLINE

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- Abstraction values
  - Generic abstractions
  - Thunks
  - Functions
  - Patterns

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\*Suggestions for improvement: [plancomps@gmail.com](mailto:plancomps@gmail.com).  
Reports of issues: <https://github.com/plancomps/CBS-beta/issues>.

# Computations

## Normal computation

### Flowing

```
[ Funcon  sequential
  Alias   seq
  Funcon  if-true-else
  Alias   if-else
  Funcon  while-true
  Alias   while ]
```

### Giving

```
[ Funcon  initialise-giving
  Funcon  give
  Funcon  given
  Funcon  interleave-repeat ]
```

### Binding

```
[ Type   environments
  Alias   envs
  Datatype identifiers
  Alias   ids
  Funcon  initialise-binding
  Funcon  bound-value
  Alias   bound
  Funcon  scope
  Funcon  collateral
  Funcon  recursive ]
```

### Generating

```
[ Funcon  fresh-atom ]
```

### Storing

```
[ Funcon  initialise-storing
  Datatype variables
  Alias   vars
  Funcon  allocate-initialised-variable
  Alias   alloc-init
  Funcon  assign
  Funcon  assigned ]
```

### Interacting

#### Output

```
[ Funcon  print ]
```

## Abnormal computation

### Failing

```
[ Funcon finalise-failing
  Funcon checked ]
```

## Values

### Value Types

```
[ Type value-types
  Alias types ]
```

### Primitive values

#### Booleans

```
[ Datatype booleans
  Alias bools
  Funcon true
  Funcon false
  Funcon not ]
```

#### Integers

```
[ Type integers
  Alias ints
  Funcon integer-add
  Alias int-add
  Funcon integer-subtract
  Alias int-sub
  Funcon integer-multiply
  Alias int-mul
  Funcon integer-is-less
  Alias is-less
  Funcon decimal-natural
  Alias decimal ]
```

#### The null value

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

### Composite values

#### Sequences of values

```
[ Funcon length
  Funcon index
  Funcon first ]
```

## Tuples

```
[ Datatype  tuples
  Funcon    tuple-elements ]
```

## Strings

```
[ Funcon    to-string ]
```

## Vectors

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

## Sets

```
[ Type      sets
  Funcon    set-unite ]
```

## Maps

```
[ Funcon    map
  Funcon    map-lookup
  Alias     lookup ]
```

## References and pointers

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

## Classes

```
[ Funcon    class
  Funcon    class-instantiator
  Funcon    class-name-single-inheritance-feature-map ]
```

## Objects

```
[ Datatype  objects
  Funcon    object
  Funcon    object-class-name
  Funcon    object-single-inheritance-feature-map ]
```

## Abstraction values

### Generic abstractions

```
[ Funcon    abstraction
  Funcon    closure ]
```

## Thunks

```
[ Funcon  thunk  
  Funcon  force ]
```

## Functions

```
[ Datatype functions  
  Funcon  function  
  Funcon  apply ]
```

## Patterns

```
[ Datatype patterns  
  Funcon  pattern  
  Funcon  match ]
```