

**multiple-dispatch**

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# 1 Overview

The multiple-dispatch library provides multiple-dispatch generic functions for Bigloo's object system. The implementation is short and relatively simple. Very little optimization has been done.

The rest of this document describes the API extensions added by the multiple-dispatch library.

## 2 API Reference

**define-md-generic** (*name arg...*) *default-body* [Macro]

**define-md-generic** creates a multiple-dispatch generic function. The first *n* (where *n* is 1 or greater) class-typed arguments are used for dispatching. The **default-body** must be provided. Multiple-dispatch generic functions can be exported from a module with an module export clause of the form (**export generic-function-name**). Specifying argument types is not supported at this time.

**define-md-method** (*name arg...*) *default-body* [Macro]

**define-md-method** creates a multiple dispatch method. Its arguments must be compatible with those declared in the generic function. The generic function must be defined and visible before a method can be defined. In the body of a method, **call-next-method** can be used to call the next most specific method.

### 3 Example

The following is a simple example of using the multiple-dispatch library. It prints the following:

```
two animals
a dog and a cat
two dogs
```

```
(module example
  (library multiple-dispatch)
  (main main))

(define-class animal)
(define-class dog::animal)
(define-class cat::animal)

(define-md-generic (doit a1::animal a2::animal)
  "two animals")

(define-md-method (doit a1::dog a2::cat)
  "a dog and a cat")

(define-md-method (doit a1::dog a2::dog)
  "two dogs")

(define (main args)
  (print (doit (instantiate::cat) (instantiate::dog)))
  (print (doit (instantiate::dog) (instantiate::cat)))
  (print (doit (instantiate::dog) (instantiate::dog))))
```

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