

# WebMapReduce Specifications (Scheme)

Revision 1.1

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## Function `wmr-emit`

4/17/10 (R  
Brown): In  
tial entry.

*Arguments:*

**key** A string containing no TAB characters.

**value** A string.

*State Change:* A key-value pair created from the arguments is appended to the output.

*Return Value:* (Ignored)

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## Function `wmr-split`

4/17/10 (R  
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tial entry.

*Arguments:*

**str** Any string.

**delims** (**OPTIONAL**) A “regular expression” pattern indicating which characters separate separate “words” in the string *arg1*. The default value is " +", which treats occurrences of one or more spaces as “word” separators.

*State Change:* None.

*Return Value:* A list consisting of the “words” in *arg1*. Here, a “*word*” is a sequence of characters that contains no characters in *arg2*, or no spaces if *arg2* is omitted.

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## Class `WmrIterator`

Iterator class for reducers

4/17/10 (R  
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tial entry.

*Superclass:* None

*State Variables for Class `WmrIterator`:*

*Constructors for Class `WmrIterator`:*

*Methods for Class `WmrIterator`:*

**has-next**

*Arguments:* None.

*State Change:* None.

*Return Value:* Boolean values, **#t** if at least one more unseen key-value pair is available, **#f** if none is available.

`get-next`

*Arguments:* None.

*State Change:* None.

*Return Value:* String, the next unseen value from a key-value pair. If no such pair exists, the boolean value `#f` is returned.

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## Function mapper

Mapper function for a map-reduce computation

*Arguments:*

`key` A string containing no TAB characters.

`value` A string.

*State Change:* 0 or more new key-value pairs are emitted for the “mapper” step of a map-reduce computation, using the function `wmr-emit`.

*Return Value:* (Ignored)

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## Function reducer

Reducer function for a map-reduce computation

*Arguments:*

`key` A string containing no TAB characters.

`iter` A `WmrIterator` object.

*State Change:* 0 or more new key-value pairs are emitted for the “reducer” step of a map-reduce computation, using the function `wmr-emit`.

*Return Value:* (Ignored)

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