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| sweep {base} | R Documentation |

**Sweep out Array Summaries**

**Description**

Return an array obtained from an input array by sweeping out a summary statistic.

**Usage**

sweep(x, MARGIN, STATS, FUN = "-", check.margin = TRUE, ...)

**Arguments**

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| x | an array. |
| MARGIN | a vector of indices giving the extent(s) of x which correspond to STATS. |
| STATS | the summary statistic which is to be swept out. |
| FUN | the function to be used to carry out the sweep. |
| check.margin | logical. If TRUE (the default), warn if the length or dimensions of STATS do not match the specified dimensions of x. Set to FALSE for a small speed gain when you *know* that dimensions match. |
| ... | optional arguments to FUN. |

**Details**

FUN is found by a call to [match.fun](http://127.0.0.1:14695/library/base/help/match.fun). As in the default, binary operators can be supplied if quoted or backquoted.

FUN should be a function of two arguments: it will be called with arguments x and an array of the same dimensions generated from STATS by [aperm](http://127.0.0.1:14695/library/base/help/aperm).

The consistency check among STATS, MARGIN and x is stricter if STATS is an array than if it is a vector. In the vector case, some kinds of recycling are allowed without a warning. Use sweep(x, MARGIN, as.array(STATS)) if STATS is a vector and you want to be warned if any recycling occurs.

**Value**

An array with the same shape as x, but with the summary statistics swept out.

**References**

Becker, R. A., Chambers, J. M. and Wilks, A. R. (1988) *The New S Language*. Wadsworth & Brooks/Cole.

**See Also**

[apply](http://127.0.0.1:14695/library/base/help/apply) on which sweep used to be based; [scale](http://127.0.0.1:14695/library/base/help/scale) for centering and scaling.

**Examples**

require(stats) # for median

med.att <- apply(attitude, 2, median)

sweep(data.matrix(attitude), 2, med.att) # subtract the column medians

## More sweeping:

A <- array(1:24, dim = 4:2)

## no warnings in normal use

sweep(A, 1, 5)

(A.min <- apply(A, 1, min)) # == 1:4

sweep(A, 1, A.min)

sweep(A, 1:2, apply(A, 1:2, median))

## warnings when mismatch

sweep(A, 1, 1:3) # STATS does not recycle

sweep(A, 1, 6:1) # STATS is longer

## exact recycling:

sweep(A, 1, 1:2) # no warning

sweep(A, 1, as.array(1:2)) # warning