

runningsum() — Running sum of vector

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Description

`runningsum(x)` returns a vector of the same dimension as x containing the running sum of x . Missing values are treated as contributing zero to the sum.

`runningsum(x, missing)` does the same but lets you specify how missing values are treated. `runningsum(x, 0)` is the same as `runningsum(x)`. `runningsum(x, 1)` specifies that missing values are to turn the sum to missing where they occur.

`quadrunningsum(x)` and `quadrunningsum(x, missing)` do the same but perform the accumulation in quad precision.

`_runningsum(y, x [, missing])` and `_quadrunningsum(y, x [, missing])` work the same way, except that rather than returning the running-sum vector, they store the result in y . This method is slightly more efficient when y is a view.

Syntax

numeric vector `runningsum(numeric vector x [, missing])`

numeric vector `quadrunningsum(numeric vector x [, missing])`

void `_runningsum(y , numeric vector x [, missing])`

void `_quadrunningsum(y , numeric vector x [, missing])`

where optional argument *missing* is a *real scalar* that determines how missing values in x are treated:

1. Specifying *missing* as 0 is equivalent to not specifying the argument; missing values in x are treated as contributing 0 to the sum.
2. Specifying *missing* as 1 specifies that missing values in x are to be treated as missing values and turn the sum to missing.

Remarks and examples

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The running sum of (1, 2, 3) is (1, 3, 6).

All functions return the same type as the argument, real if argument is real, complex if complex.

Conformability

`runningsum(x, missing)`, `quadrningsum(x, missing)`:

<i>x</i> :	$r \times 1$	or	$1 \times c$	
<i>missing</i> :	1×1			(optional)
<i>result</i> :	$r \times 1$	or	$1 \times c$	

`_runningsum(y, x, missing)`, `_quadrningsum(y, x, missing)`:

input:

<i>x</i> :	$r \times 1$	or	$1 \times c$	
<i>y</i> :	$r \times 1$	or	$1 \times c$	(contents irrelevant)
<i>missing</i> :	1×1			(optional)

output:

<i>y</i> :	$r \times 1$	or	$1 \times c$
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Diagnostics

If `missing = 0`, missing values are treated as contributing zero to the sum; they do not turn the sum to missing. Otherwise, missing values turn the sum to missing.

`_runningsum(y, x, missing)` and `_quadrningsum(y, x, missing)` abort with error if *y* is not **p-conformable** with *x* and of the same **eltype**. The contents of *y* are irrelevant.

Also see

[M-5] **sum()** — Sums

[M-4] **Mathematical** — Important mathematical functions

[M-4] **Utility** — Matrix utility functions

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