

**substr()** — Extract substring

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## Description

`substr(s, b, l)` returns the substring of ASCII string *s* starting at position *b* and continuing for a length of *l* characters.

For non-ASCII strings, *b* and *l* are interpreted as byte positions. To obtain character-based substrings of Unicode strings, see [M-5] [usubstr\(\)](#).

`substr(s, b)` is equivalent to `substr(s, b, .)` for strings that do not contain binary 0. If there is a binary 0 to the right of *b*, the substring from *b* up to but not including the binary 0 is returned.

When arguments are not scalar, `substr()` returns element-by-element results.

## Syntax

*string matrix*    `substr(string matrix s, real matrix b, real matrix l)`

*string matrix*    `substr(string matrix s, real matrix b)`

## Remarks and examples

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`substr(s, b, l)` returns the substring of ASCII string *s* starting at position *b* and continuing for a length of *l*, where

1. *b* specifies the starting position; the first character of the string is *b* = 1.
2. *b* > 0 is interpreted as distance from the start of the string; *b* = 2 means starting at the second character.
3. *b* < 0 is interpreted as distance from the end of string; *b* = -1 means starting at the last character; *b* = -2 means starting at the second from the last character.
4. *l* specifies the length; *l* = 2 means for two characters.
5. *l* < 0 is treated the same as *l* = 0: no characters are copied.
6. *l* ≥ . is interpreted to mean to the end of the string.

`substr(s, b)` is equivalent to `substr(s, b, .)` for strings that do not contain binary 0. If there is a binary 0 to the right of *b*, the substring from *b* up to but not including the binary 0 is returned.

If your string contains Unicode characters, see [M-5] [usubstr\(\)](#) and [M-5] [udsubstr\(\)](#).

## Conformability

`substr(s, b, l)`:

*s*:  $r_1 \times c_1$

*b*:  $r_2 \times c_2$

*l*:  $r_3 \times c_3$ ; *s*, *b*, and *l* r-conformable

*result*:  $\max(r_1, r_2, r_3) \times \max(c_1, c_2, c_3)$

`substr(s, b)`:

*s*:  $r_1 \times c_1$

*b*:  $r_2 \times c_2$ ; *s* and *b* r-conformable

*result*:  $\max(r_1, r_2) \times \max(c_1, c_2)$

## Diagnostics

In `substr(s, b, l)` and `substr(s, b)`, if *b* describes a position before the beginning of the string or after the end, "" is returned. If *b* + *l* describes a position to the right of the end of the string, results are as if a smaller value for *l* were specified.

## Also see

[M-5] **subinstr()** — Substitute text

[M-5] **\_substr()** — Substitute into string

[M-5] **usubinstr()** — Replace Unicode substring

[M-5] **usubstr()** — Extract Unicode substring

[M-5] **\_usubstr()** — Substitute into Unicode string

[M-4] **string** — String manipulation functions

[U] **12.4.2 Handling Unicode strings**