

# SEP 2017: upgrading weekday()

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## Abstract

`weekday()` is prone to the bug [#15200](#), and suffers from numerous limitations. For instance, its help page claims to accept dates as text like "17-Feb-2031", while it is not actually the case. We propose to fix the bug and extend `weekday` to accept new input syntaxes. A new `LANG` option is also introduced.

## New dates syntaxes

All new syntaxes will accept the 'long' option.

### `weekday()`

Without specifying any date number, the current date of today will be considered.

### `weekday(dateStrings)`

`dateStrings` is a matrix of strings providing the dates. Four string formats are accepted and described here-below. In the matrix, all strings must have the same format:

- DD-Mmm-YYYY like "12-Feb-2031" or "7-Jun-2024". Remarks:
  - Day numbers < 10 may be specified without leading 0.
  - The short month name is mandatory *in english*
- DD/MM/YYYY like "23/7/2018". Remark: DD or/and MM < 10 may or not have a leading zero.
- YYYY-MM-DD like "2018-07-23". Remark: DD or/and MM < 10 *must* have a leading zero.
- YYYY-MM-DD HH:MN:SS.sss like "2018-07-23 17:48:37.1". Remarks: DD or/and MM < 10 *must* have a leading zero. All what follows the first space is ignored.

### `weekday(Y, M, D)`

Y, M, and D are three element-wise matrices of numbers having the same sizes. Y are the year numbers. M are the month indices in the year, from 1 to 12. D are the day indices in the month, from 1 to 31. The input date #i is defined with  $D(i)/M(i)/Y(i)$ .

## weekday(YMD)

YMD is a Nx3 matrix of numbers. The first column  $YMD(:, 1)$  are years. The second column  $YMD(:, 2)$  are month indices.  $YMD(:, 3)$  are day indices. The YMD #ith row defines the #ith date  $YMD(i, 3) / YMD(i, 2) / YMD(i, 1)$ . This kind of input will be easily distinguished from a Nx3 matrix of datenums by testing the range of values in columns.

## New LANG option

Currently, `weekday` always returns the short or long month names in the *current session language*, that may be distinct from `en_US`. From here, getting month names in `en_US` or any other supported language than the current one is complicated or even impossible, since `gettext()` is currently unable to translate an input other than from `en_US`. We propose to introduce a new `LANG` option to be specified at any place (before or after "long") 'after' the dates input(s). When it is used, month names are returned in the required language instead of in the session's language. `LANG` value is a single text word in the standard `cc_CC` format.

Despite this would not be back-compatible, we could propose making `en_US` the default instead of the current locale up to now.

## Authors

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