

# The **clockdate** package

Provides `\clock` and `\calendardate`.

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## 1 Introduction

### 1.1 About

This package provides `\clock` and `\calendardate`. `\clock` prints the time of day. `\calendardate` prints the calendar date.

### 1.2 Loading the package

Requirements:

- L<sup>A</sup>T<sub>E</sub>X<sub>2 $\epsilon$</sub>  version 2023-11-01 or newer
- l3kernel version 2023-11-01 or newer

`clockdate` does not load or require any other packages.

### 1.3 Syntax

This documentation uses the syntax  $\langle integer\ expression \rangle$ . This syntax has the same meaning as the argument to `\interval`, which is documented in `usrguide`.

## 2 Package options

This section documents the package options provided by the `clockdate` package.

### `overwrite-date`

Declares a new document command `\date` that is equivalent to `\calendardate`. This new definition of `\date` overwrites its previous definition. By default, `\date` sets the document's date which is used in `\maketitle`. Use this package option only if your document does not rely on the old definition of `\date`.

### 3 Commands

```
\clockdatesetup <*> {<key-value list>}
```

Sets and processes the `clockdate` package keys (§4) in `<key-value list>`. Adding the optional star first resets the `clockdate` package keys to their initial values. Can be used mid-document. The scope of the effect is local to the current group.

```
\clock <*> [<key-value list>] {<token list>}
```

Prints the time of day or a time of day range. `<token list>` must take either of the following forms:

- `<clock>`
- `<clock1>--<clock2>`

`<clock>` must take any of the following forms:

- `<hour>:<minute>:<second>`
- `<hour>:<minute>`
- `<hour>`

`<hour>`, `<minute>`, and `<second>` are evaluated as an `<integer expression>`. `<hour>` must evaluate to an integer from 0 to 24. `<minute>` and `<second>` must evaluate to an integer from 0 to 59.

If the optional argument is used, `<key-value list>` sets the keys in path `clock/` for only that particular usage of `\clock`. For details on adding the optional star, see the key `clock/star` (§4.1).

```
\calendardate <*> [{<key-value list>}] {<token list>}
```

Prints the calendar date. *<token list>* must take any of the following forms:

- *<year>-<month>-<day(s)>*
- *<month>-<day(s)>*
- *<year>-<month(s)>*

*<year>* and *<month>* are evaluated as an *<integer expression>*. *<year>* must evaluate to an integer from 1000 to 9999. *<month>* must evaluate to an integer from 1 to 12.

*<day(s)>* must take any of the following forms:

- a single day *<day>*
- a day range *<day<sub>12</sub>*
- a comma-separated list of items where each item must be either a single day *<day>* or a day range *<day<sub>12</sub>*

Each *<day>* is evaluated as an *<integer expression>* and must evaluate to a valid calendar date. The calendar date Feb. 29 is always valid if *<year>* is omitted.

*<month(s)>* must take any of the following forms:

- a single month *<month>*
- a month range *<month<sub>12</sub>*
- a comma-separated list of items where each item must be either a single month *<month>* or a month range *<month<sub>12</sub>*

If the optional argument is used, *<key-value list>* sets the keys in path *date/* for only that particular usage of *\calendardate*. For details on adding the optional star, see the key *date/star* (§4.2).

## 4 Keys

This section documents the keys provided by the *clockdate* package. Set the package keys using *\clockdatesetup{<key-value list>}* (§3).

### 4.1 \clock

This subsection documents the keys that modify the behavior of *\clock*.

```
clock = <key-value list>
```

Meta key that sets the keys in *<key-value list>* in path *clock/*.

```
clock/star = <key-value list>
```

When adding the optional star in *\clock*, the keys in *<key-value list>* in path *clock/* will be set for only that particular usage of *\clock*. This key is initially not set.

```
clock/hour = 12|24
```

Choice key that sets whether to print the hour in 12-hour or 24-hour format. In 24-hour format, the am/pm is always omitted. The initial value is 12.

```
clock/hour-leading-zero = true|false
```

Boolean key that sets whether to print the hour with a leading zero. The initial value is `false`.

```
clock/ampm = <choice>
```

Choice key that sets the am/pm format. `<choice>` must match any of the following:

- lowercase-with-periods (a.m./p.m.)
- lowercase (am/pm)
- uppercase-with-periods (A.M./P.M.)
- uppercase (AM/PM)
- small-caps-with-periods (A.M./P.M.)
- small-caps (AM/PM)
- none

The initial value is `lowercase-with-periods`.

If the next token after `\clock` is a period, the am/pm will not print an extra period. When the am/pm prints the period, it is followed by `\@` because the sentence does not end here.

```
clock/ampm-omit-first = true|false
```

Boolean key that sets whether `<clock1>` prints the am/pm in a time of day range if `<clock1>` and `<clock2>` would either both display am or both display pm. The initial value is `true`.

```
clock/hour-minute-separator = <token list>
clock/minute-second-separator = <token list>
clock/clock-separator = <token list>
```

The key `clock/hour-minute-separator` sets the separator between `<hour>` and `<minute>` to `<token list>`. The initial value is `..`. The key `clock/minute-second-separator` sets the separator between `<minute>` and `<second>` to `<token list>`. The initial value is `..`. The meta key `clock/clock-separator` sets the aforementioned keys to `<token list>`.

```
clock/ampm-separator = <token list>
```

Sets the separator before the am/pm to `<token list>`. The initial value is `␣`.

```
clock/range-separator = <token list>
```

Sets the separator between `<clock1>` and `<clock2>` in a time of day range to `<token list>`. The initial value is `␣to␣`.

## 4.2 \calendardate

This subsection documents the keys that modify the behavior of \calendardate.

```
date = <key-value list>
```

Meta key that sets the keys in <key-value list> in path date/.

```
date/star = <key-value list>
```

When adding the optional star in \calendardate, the keys in <key-value list> in path date/ will be set for only that particular usage of \calendardate. This key is initially not set.

```
date/order = month-day-year | day-month-year | year-month-day
```

Choice key that sets the order in which the year, month, and day are printed. The initial value is month-day-year.

```
date/month/year-month-day = <choice>
date/month/year-month = <choice>
date/month/month-day = <choice>
date/month = <choice>
```

<choice> must match any of the following:

- long
- abbreviated (Jan., Feb., Aug., Sept., Oct., Nov., Dec.)
- three-letter
- number
- zero-padded-number

The choice key date/month/year-month-day sets the month format when printing the year, month, and day. The initial value is **abbreviated**. The choice key date/month/year-month sets the month format when printing only the year and month. The initial value is **long**. The choice key date/month/month-day sets the month format when printing only the month and day. The initial value is **abbreviated**. The meta key date/month sets the aforementioned keys to <choice>.

If the next token after \calendardate is a period, the abbreviated month will not print an extra period. When the abbreviated month prints the period, it is followed by \@ because the sentence does not end here.

```

date/year-month-separator = ⟨token list⟩
date/month-day-separator = ⟨token list⟩
date/year-day-separator = ⟨token list⟩
date/date-separator = ⟨token list⟩

```

The key `date/year-month-separator` sets the separator between `⟨year⟩` and `⟨month⟩` to `⟨token list⟩`. The initial value is `␣`. The key `date/month-day-separator` sets the separator between `⟨month⟩` and `⟨day⟩` to `⟨token list⟩`. The initial value is `␣`. The key `date/year-day-separator` sets the separator between `⟨year⟩` and `⟨day⟩` to `⟨token list⟩`. The initial value is `,␣`. The meta key `date/date-separator` sets the aforementioned keys to `⟨token list⟩`.

```

date/days-separator = ⟨token list⟩
date/days-pair-separator = ⟨token list⟩
date/days-final-separator = ⟨token list⟩

```

The key `date/days-separator` sets the separator between each item in `⟨day(s)⟩` to `⟨token list⟩`. The initial value is `,␣`. The key `date/days-pair-separator` sets the separator between each item in `⟨day(s)⟩` to `⟨token list⟩` when `⟨day(s)⟩` contains exactly two items. The initial value is `␣and␣`. The key `date/days-final-separator` sets the separator between the last two items in `⟨day(s)⟩` to `⟨token list⟩` when `⟨day(s)⟩` contains three or more items. The initial value is `,␣and␣`.

```

date/days-range-separator = ⟨token list⟩

```

Sets the separator between `⟨day1⟩` and `⟨day2⟩` in a day range to `⟨token list⟩`. The initial value is `␣to␣`.

```

date/months-separator = ⟨token list⟩
date/months-pair-separator = ⟨token list⟩
date/months-final-separator = ⟨token list⟩

```

The key `date/months-separator` sets the separator between each item in `⟨month(s)⟩` to `⟨token list⟩`. The initial value is `,␣`. The key `date/months-pair-separator` sets the separator between each item in `⟨month(s)⟩` to `⟨token list⟩` when `⟨month(s)⟩` contains exactly two items. The initial value is `␣and␣`. The key `date/months-final-separator` sets the separator between the last two items in `⟨month(s)⟩` to `⟨token list⟩` when `⟨month(s)⟩` contains three or more items. The initial value is `,␣and␣`.

```

date/months-range-separator = ⟨token list⟩

```

Sets the separator between `⟨month1⟩` and `⟨month2⟩` in a month range to `⟨token list⟩`. The initial value is `␣to␣`.

## 5 References

This package uses some ideas from the `datetime2` and `siunitx` packages. The `clockdate` package keys

- clock/hour-minute-separator
- clock/minute-hour-separator
- clock/clock-separator

resemble the following `datetime2` package options:

- hourminsep
- minsecsep
- timesep

The `clockdate` package keys

- date/year-month-separator
- date/month-day-separator
- date/year-day-separator
- date/date-separator

resemble the following `datetime2` package options:

- yearmonthsep
- monthdaysep
- dayyearsep
- datesep

The `clockdate` package keys

- date/days-final-separator
- date/days-pair-separator
- date/days-separator
- date/months-final-separator
- date/months-pair-separator
- date/months-separator

use a similar naming convention to the following `siunitx` package control options:

- list-final-separator
- list-pair-separator
- list-separator