# Examples for the datetimeutils package

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**convert_date**

Convert dates in numeric external formats (e.g. from MATLAB or Excel) to Date.

```
> convert_date(40000, "excel")
```
```
[1] "2009-07-06"
```

```
> convert_date(725935, "matlab")
```
```
[1] "1987-07-17"
```

**convert_tz**

Convert a timestamp from one timezone to another.

```
> convert_tz("2016-05-10 12:00:00", "Europe/Berlin", "America/Chicago")
```
```
[1] "2016-05-10 05:00:00 CDT"
```

## Business days

See ?business_days.

```
> is_weekend(as.Date("2017-1-5"))
```
```
[1] FALSE
```

```
> next_businessday(as.Date("2017-1-5"))    ## there is also 'previous_businessday'
```
```
[1] "2017-01-06"
```

```
> next_businessday(as.Date("2017-1-5"), shift = 2)  ## short-hand: 'next_bday'
```
```
[1] "2017-01-09"
```

## Guess Timestamp Format

```
> s <- c(" 1999-08-19 10:00",
         "19.8.1999 10:00",    ## Central-European, e.g. Germany
         "8/19/99 10:00:00")   ## US
> guess_datetime(s)
```
```
[1] "1999-08-19 10:00:00 UTC" "1999-08-19 10:00:00 UTC"
[3] "1999-08-19 10:00:00 UTC"
```

## Days of the week (or some other calendar period)

```
> last_weekday(5, as.Date("2017-1-1"))   ## last Friday of Jan 2017
```
```
[1] "2017-01-27"
```

```
> nth_weekday(1, as.Date("2017-1-1"), 2) ## second Monday of Jan 2017
```
```
[1] "2017-01-09"
```

```
> dates <- seq(as.Date("2012-1-1"), as.Date("2013-4-15"), by = "day")
> nth_day(dates, period = "quarter", n = "first")
```
```
[1] "2012-01-01" "2012-04-01" "2012-07-01" "2012-10-01" "2013-01-01"
[6] "2013-04-01"
```

```
> nth_day(dates, period = c("Jan", "April"), n = "first")
```
```
[1] "2012-01-01" "2012-04-01" "2013-01-01" "2013-04-01"
```

```
> nth_day(dates, period = c("Jan", "April"), n = "last")
```
```
[1] "2012-01-31" "2012-04-30" "2013-01-31" "2013-04-15"
```

```
> nth_day(dates, period = c("Jan", "April"), n = c(2, 5))
```
```
[1] "2012-01-02" "2012-01-05" "2012-04-02" "2012-04-05" "2013-01-02"
[6] "2013-01-05" "2013-04-02" "2013-04-05"
```

```
> toLatex(sessionInfo())
```

- R version 4.5.2 (2025-10-31), x86_64-pc-linux-gnu

- Locale: `LC_CTYPE=en_US.UTF-8, LC_NUMERIC=C, LC_TIME=en_US.UTF-8, LC_COLLATE=C,`
  `LC_MONETARY=en_US.UTF-8, LC_MESSAGES=en_US.UTF-8, LC_PAPER=en_US.UTF-8,`
  `LC_NAME=C, LC_ADDRESS=C, LC_TELEPHONE=C, LC_MEASUREMENT=en_US.UTF-8,`
  `LC_IDENTIFICATION=C`

- Time zone: `Etc/UTC`

- TZcode source: `system (glibc)`

- Running under: `Ubuntu 24.04.3 LTS`

- Matrix products: default

- BLAS: `/usr/lib/x86_64-linux-gnu/openblas-pthread/libblas.so.3`

- LAPACK: `/usr/lib/x86_64-linux-gnu/openblas-pthread/libopenblasp-r0.3.26.so`
  ;     LAPACK version3.12.0

- Base packages: base, datasets, grDevices, graphics, methods, stats, utils

- Other packages: datetimeutils 0.6-6

- Loaded via a namespace (and not attached): buildtools 1.0.0, cli 3.6.5,
  compiler 4.5.2, evaluate 1.0.5, knitr 1.51, maketools 1.3.2, rlang 1.1.7, sys 3.4.3,
  tools 4.5.2, xfun 0.56