# Package: waterfalls (via r-universe)

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**Type** Package

**Title** Create Waterfall Charts using 'ggplot2' Simply

**Version** 1.1.0

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**Description** A not uncommon task for quants is to create 'waterfall charts'. There seems to be no simple way to do this in 'ggplot2' currently. This package contains a single function (waterfall) that simply draws a waterfall chart in a 'ggplot2' object. Some flexibility is provided, though often the object created will need to be modified through a theme.

**License** MIT + file LICENSE

**URL** https://github.com/hughparsonage/waterfalls

**Encoding** UTF-8

**Imports** ggplot2 (>= 2.0.0), grDevices

**RoxygenNote** 7.2.0

**Repository** https://hughparsonage.r-universe.dev

**RemoteUrl** https://github.com/hughparsonage/waterfalls

**RemoteRef** HEAD

**RemoteSha** f088e4fbe054306f72b453b193db73f815c07df9

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### Description

Create waterfall charts

### Usage

```
waterfall(
  .data = NULL,
  values,
  labels,
  rect_text_labels = values,
  rect_text_size = 1,
  rect_text_labels_anchor = "centre",
  put_rect_text_outside_when_value_below = 0.05 * (max(cumsum(values)) -
    min(cumsum(values))),
  calc_total = FALSE,
  total_axis_text = "Total",
  total_rect_text = sum(values),
  total_rect_color = "black",
  total_rect_border_color = "black",
  total_rect_text_color = "white",
  fill_colours = NULL,
  fill_by_sign = TRUE,
  rect_width = 0.7,
  rect_border = "black",
  draw_lines = TRUE,
  lines_anchors = c("right", "left"),
  linetype = "dashed",
  draw_axis.x = "behind",
  theme_text_family = "",
  scale_y_to_waterfall = TRUE,
  print_plot = FALSE,
  ggplot_object_name = "mywaterfall"
)
```

### Arguments

| | |
|---|---|
| `.data` | a `data.frame` containing two columns, one with the values, the other with the labels |
| `values` | a numeric vector making up the heights of the rectangles in the waterfall |
| `labels` | the labels corresponding to each vector, marked on the x-axis |
| `rect_text_labels` | |
| | (character) a character vector of the same length as values that are placed on the rectangles |

`rect_text_size`   size of the text in the rectangles

`rect_text_labels_anchor`

> (character) How should `rect_text_labels` be positioned? In future releases, we might have support for north or south anchors, or for directed positioning (negative down, positive up) etc. For now, only centre is supported.

`put_rect_text_outside_when_value_below`

> (numeric) the text labels accompanying a rectangle of this height will be placed outside the box: below if it's negative; above if it's positive.

`calc_total`      (logical, default: FALSE) should the final pool of the waterfall be calculated (and placed on the chart)

`total_axis_text`

> (character) the text appearing on the axis underneath the total rectangle

`total_rect_text`

> (character) the text in the middle of the rectangle of the total rectangle

`total_rect_color`

> the color of the final rectangle

`total_rect_border_color`

> the border color of the total rectangle

`total_rect_text_color`

> the color of the final rectangle's label text

`fill_colours`    Colours to be used to fill the rectangles, in order. Disregarded if `fill_by_sign` is TRUE (the default).

`fill_by_sign`    (logical, default: TRUE) should positive and negative values each have the same colour?

`rect_width`      (numeric) the width of the rectangle, relative to the space between each label factor

`rect_border`     the border colour around the rectangles. Provide either a single color, that will be used for each rectangle, or one color for each rectangle. Choose NA if no border is desired.

`draw_lines`      (logical, default: TRUE) should lines be drawn between successive rectangles

`lines_anchors`   a character vector of length two specifying the horizontal placement of the drawn lines relative to the preceding and successive rectangles, respectively

`linetype`        the linetype for the draw_lines

`draw_axis.x`     (character) one of "none", "behind", "front" whether to draw an x.axis line and whether to draw it behind or in front of the rectangles, default is behind

`theme_text_family`

> (character) Passed to the `text` argument in `ggplot2::theme`.

`scale_y_to_waterfall`

> (logical, default: TRUE) Should the default range of the y-axis be from the bottom of the lowest pool to the top of the highest? If FALSE, which was the only option before version 0.1.2, the range of the plot is more balanced around the y-axis.

`print_plot`      (logical) Whether or not the plot should be printed. By default, TRUE, which means it cannot be assigned.

`ggplot_object_name`

> (character) A quoted valid object name to which ggplot layers may be added after the function has run. Ignored if `print` is FALSE.

**Author(s)**

Based on `grattan_waterfall` from the 'grattanCharts' package ([https://github.com/HughParsonage/](https://github.com/HughParsonage/grattanCharts)
[grattanCharts](https://github.com/HughParsonage/grattanCharts)).

**Examples**

```
waterfall(values = round(rnorm(5), 1), labels = letters[1:5], calc_total = TRUE)
waterfall(.data = data.frame(category = letters[1:5],
                             value = c(100, -20, 10, 20, 110)),
          fill_colours = colorRampPalette(c("#1b7cd6", "#d5e6f2"))(5),
          fill_by_sign = FALSE)
```

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