Bin and summarise in 2d (rectangle & hexagons)

Source: `R/stat-summary-2d.r` (https://github.com/tidyverse/ggplot2/blob/master/R/stat-summary-2d.r), `R/stat-summary-hex.r` (https://github.com/tidyverse/ggplot2/blob/master/R/stat-summary-hex.r)

`stat_summary_2d` is a 2d variation of `stat_summary()`. `stat_summary_hex` is a hexagonal variation of `stat_summary_2d()`. The data are divided into bins defined by `x` and `y`, and then the values of `z` in each cell is are summarised with `fun`.

```
stat_summary_2d(
  mapping = NULL,
  data = NULL,
  geom = "tile",
  position = "identity",
  ...,
  bins = 30,
  binwidth = NULL,
  drop = TRUE,
  fun = "mean",
  fun.args = list (https://rdrr.io/r/base/list.html)(),
  na.rm = FALSE,
  show.legend = NA,
  inherit.aes = TRUE
)

stat_summary_hex(
  mapping = NULL,
  data = NULL,
  geom = "hex",
  position = "identity",
  ...,
  bins = 30,
  binwidth = NULL,
  drop = TRUE,
  fun = "mean",
  fun.args = list (https://rdrr.io/r/base/list.html)(),
  na.rm = FALSE,
  show.legend = NA,
  inherit.aes = TRUE
)
```

Arguments

mapping Set of aesthetic mappings created by `aes()` or `aes_()`. If specified and `inherit.aes = TRUE` (the default), it is combined with the default mapping at the top level of the plot. You must supply `mapping` if there is no plot mapping.

data The data to be displayed in this layer. There are three options:

If `NULL`, the default, the data is inherited from the plot data as specified in the call to `ggplot()`.

A `data.frame`, or other object, will override the plot data. All objects will be fortified to produce a data frame. See `fortify()` for which variables will be created.

A `function` will be called with a single argument, the plot data. The return value must be a `data.frame`, and will be used as the layer data. A `function` can be created from a `formula` (e.g. `~ head(.x, 10)`).

geom The geometric object to use display the data

position Position adjustment, either as a string, or the result of a call to a position adjustment function.

... Other arguments passed on to `layer()`. These are often aesthetics, used to set an aesthetic to a fixed value, like `colour = "red"` or `size = 3`. They may also be parameters to the paired geom/stat.

bins numeric vector giving number of bins in both vertical and horizontal directions. Set to 30 by default.

binwidth Numeric vector giving bin width in both vertical and horizontal directions. Overrides `bins` if both set.

drop drop if the output of `fun` is `NA`.

fun function for summary.

fun.args A list of extra arguments to pass to `fun`

na.rm If `FALSE`, the default, missing values are removed with a warning. If `TRUE`, missing values are silently removed.

show.legend logical. Should this layer be included in the legends? `NA`, the default, includes if any aesthetics are mapped. `FALSE` never includes, and `TRUE` always includes. It can also be a named logical vector to finely select the aesthetics to display.

inherit.aes If `FALSE`, overrides the default aesthetics, rather than combining with them. This is most useful for helper functions that define both data and aesthetics and shouldn't inherit behaviour from the default plot specification, e.g. `borders()`.

Aesthetics

- `x`: horizontal position
- `y`: vertical position
- `z`: value passed to the summary function

Computed variables

x,y

Location

value

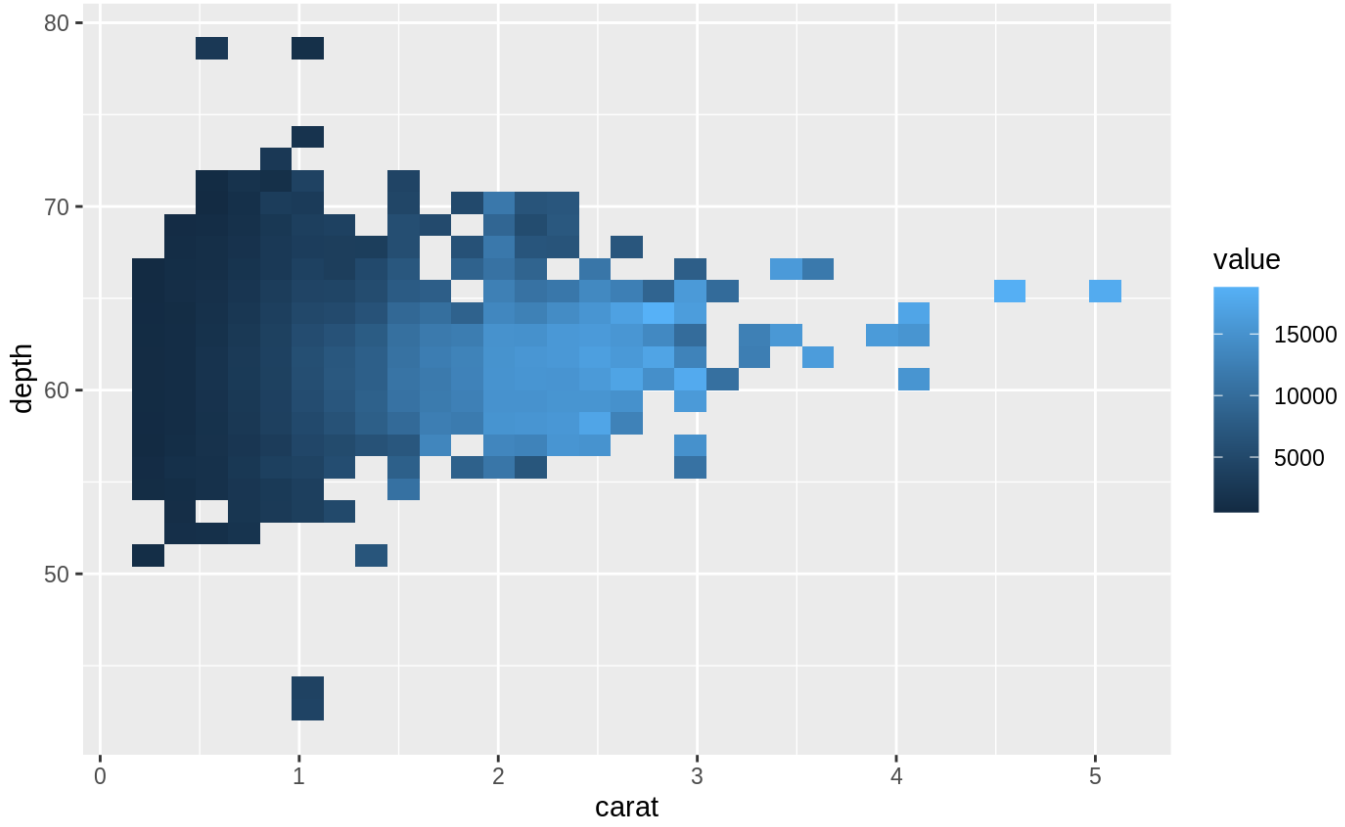
Value of summary statistic.

See also

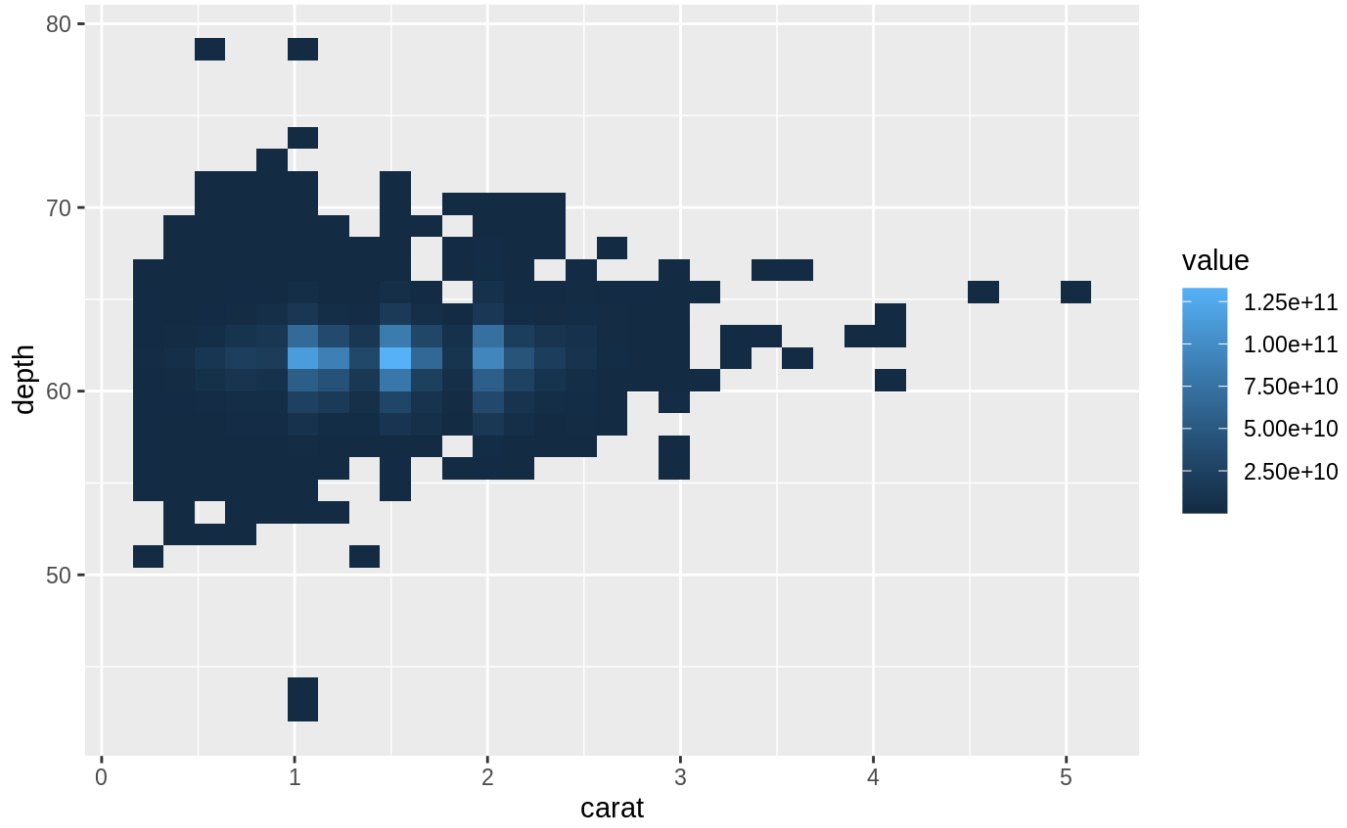
`stat_summary_hex()` for hexagonal summarization. `stat_bin2d()` for the binning options.

Examples

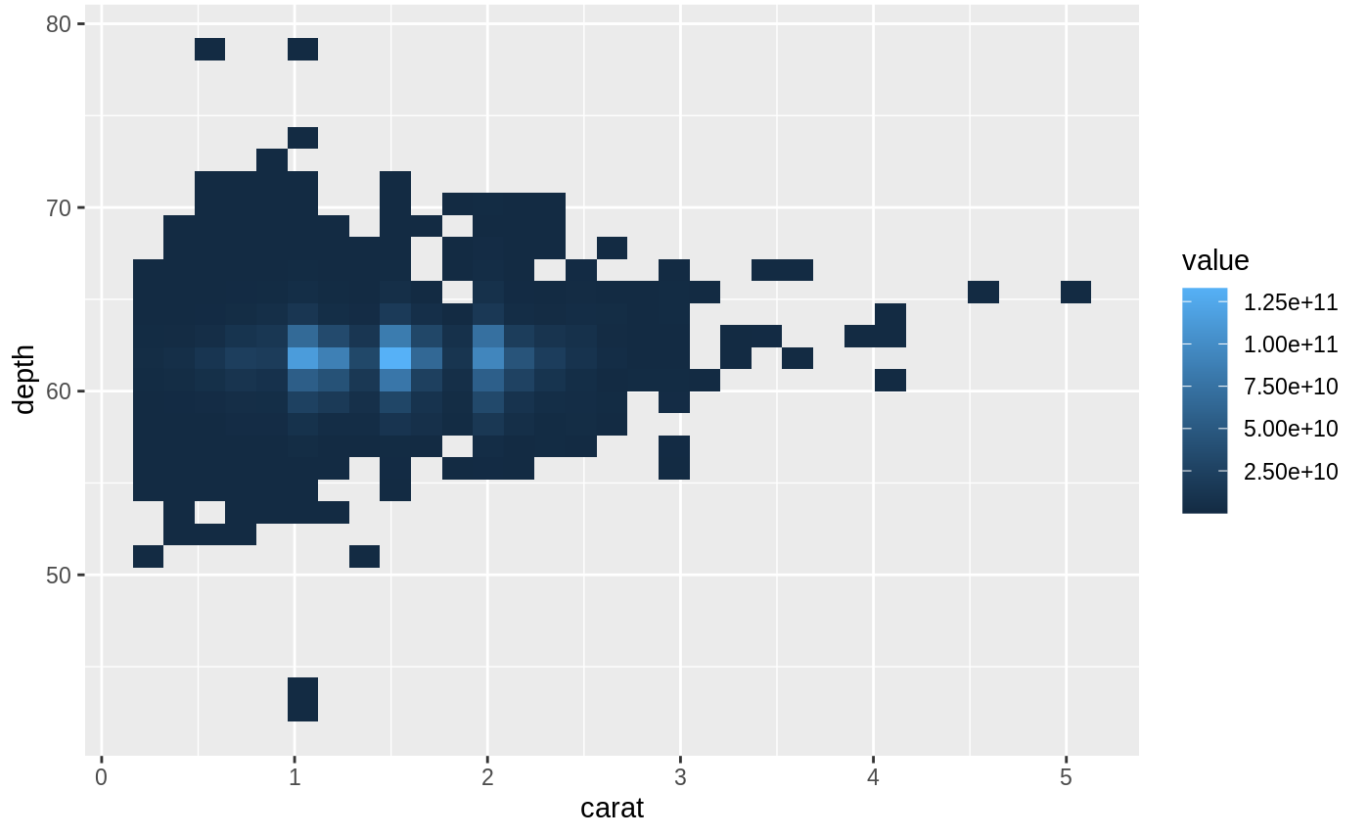
```
d <- ggplot (ggplot.html)(diamonds, aes (aes.html)(carat, depth, z = price))
d + stat_summary_2d()
```



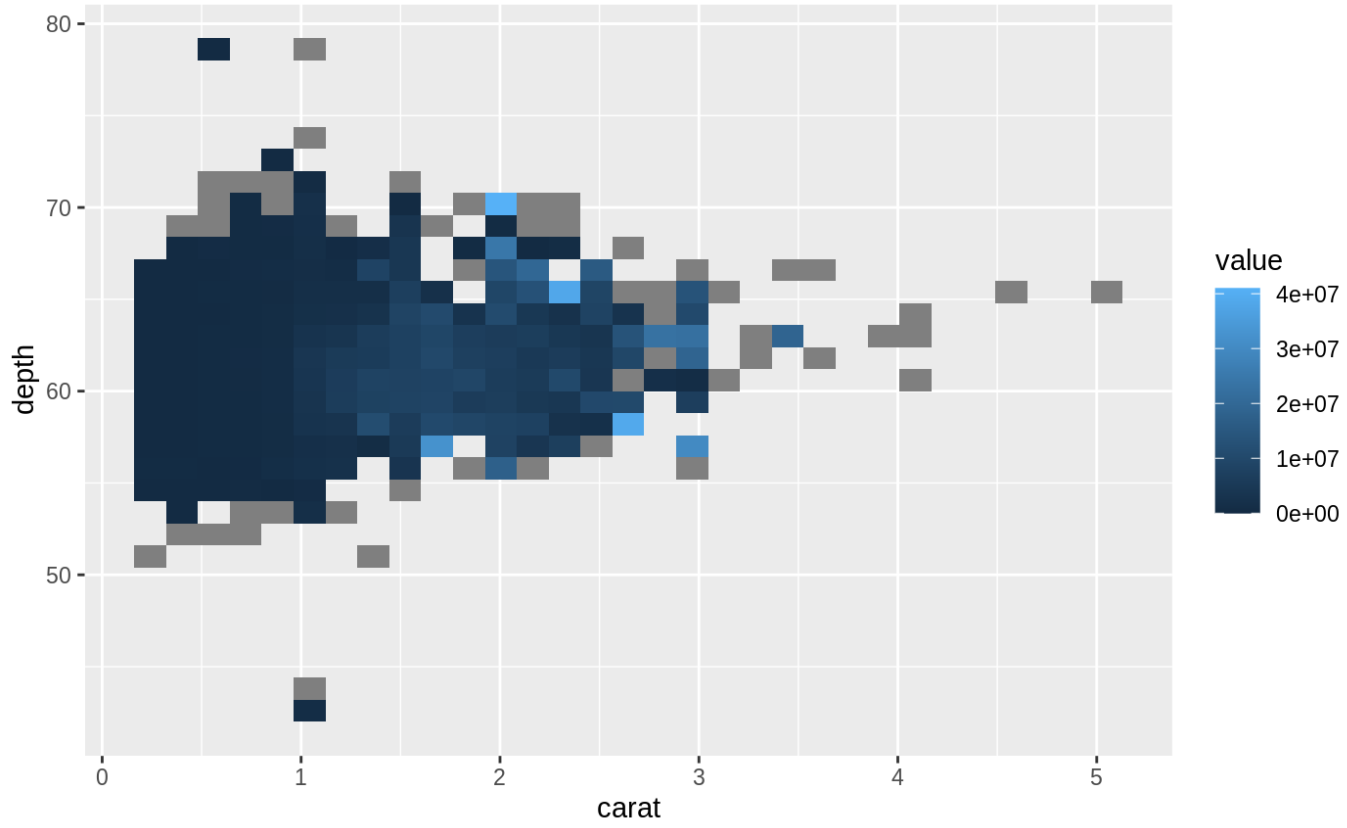

```
# Specifying function
d + stat_summary_2d(fun = function(x) sum (https://rdrr.io/r/base/sum.html)(x^2))
```



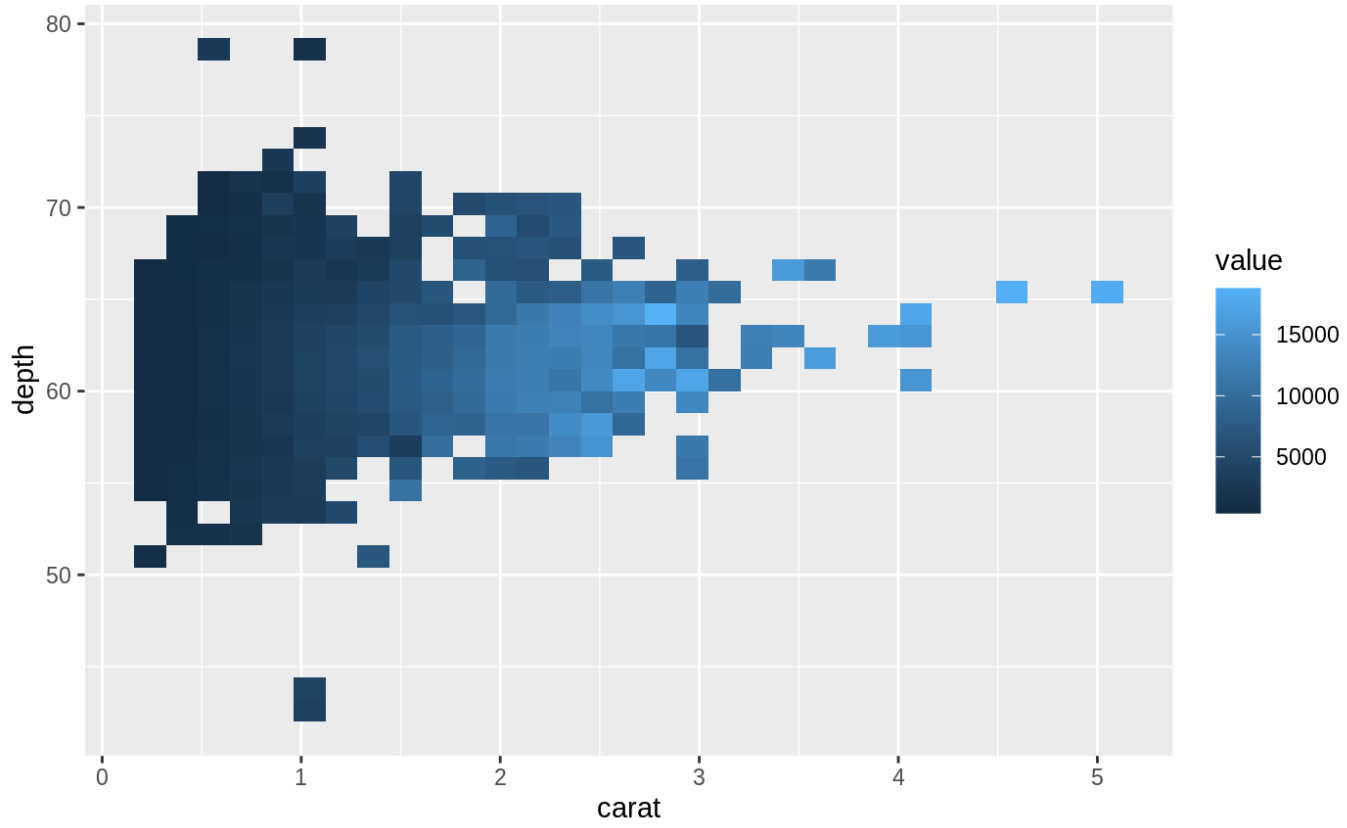

```
d + stat_summary_2d(fun = ~ sum (https://rdrr.io/r/base/sum.html)(.x^2))
```




```
d + stat_summary_2d(fun = var)
```

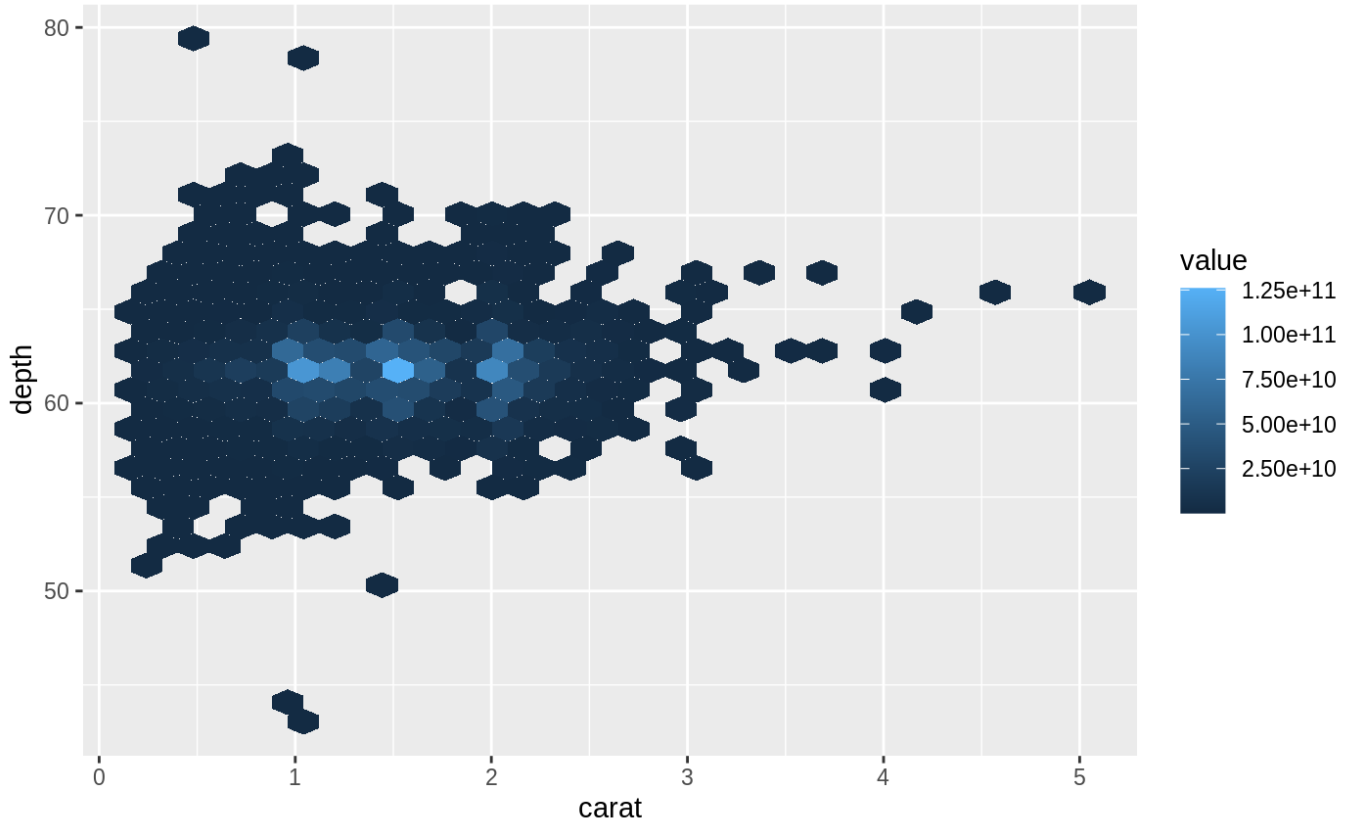



```
d + stat_summary_2d(fun = "quantile", fun.args = list (https://rdrr.io/r/base/list
```




```
if (requireNamespace (https://rdrr.io/r/base/ns-load.html)("hexbin")) {
d + stat_summary_hex()
```

```
d + stat_summary_hex(fun = ~ sum (https://rdrr.io/r/base/sum.html)(.x^2))
}
```



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ggplot2 is a part of the **tidyverse**, an ecosystem of packages designed with common APIs and a shared philosophy. Learn more at tidyverse.org (https://tidyverse.org).

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