

# WIE BEKOMMT MAN HILFE?

Jan-Philipp Kolb

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# WIE BEKOMME ICH HILFE?

- ▶ Um Hilfe im Allgemeinen zu bekommen:

```
help.start()
```

- ▶ Online-Dokumentation für die meisten Funktionen:

```
help(name)
```

- ▶ Benutze ?, um Hilfe zu bekommen

```
?mean
```

- ▶ `example(lm)` liefert ein Beispiel für die lineare Regression

```
example(lm)
```

# VIGNETTEN

- ▶ Eine Vignette ist ein Papier, das die wichtigsten Funktionen eines Pakets darstellt.
- ▶ Sie enthalten viele reproduzierbare Beispiele.
- ▶ Vignetten sind ein neues Werkzeug, deshalb hat nicht jedes Paket eine Vignette.

```
browseVignettes()
```

- ▶ Um eine Vignette zu bekommen:

```
vignette("osmdata")
```

# EIN BEISPIEL FÜR EINE VIGNETTE - DAS PAKET OSMDATA

<https://cran.r-project.org/web/packages/osmdata/vignettes/osmdata.html>

## 1. Introduction

`osmdata` is an R package for downloading and using data from OpenStreetMap ([OSM](#)). OSM is a global open access mapping project, which is free and open under the [ODbL licence](#) [[@OpenStreetMap](#)]. This has many benefits, ensuring transparent data provenance and ownership, enabling real-time evolution of the database and, by allowing anyone to contribute, encouraging democratic decision making and citizen science [[@johnson\\_models\\_2017](#)]. See the [OSM wiki](#) to find out how to contribute to the world's open geographical data commons.

Unlike the [openStreetMap](#) package, which facilitates the download of raster tiles, `osmdata` provides access to the vector data underlying OSM.

`osmdata` can be installed from CRAN with

```
install.packages("osmdata")
```

and then loaded in the usual way:

```
library(osmdata)
```

```
## Data (c) OpenStreetMap contributors, ODbL 1.0. http://www.openstreetmap.org/copyright
```

The development version of `osmdata` can be installed with the `devtools` package using the following command:

```
devtools::install_github('osmdatar/osmdata')
```

# Demos

- ▶ für manche Pakete gibt es Demos:

```
demo() # zeigt alle verfügbaren Demos
demo(package = "httr") # Zeigt alle Demos in einem Paket

# Ein spezifisches Demo laufen lassen:
demo("oauth1-twitter", package = "httr")
```

- ▶ Wenn ein Demo gestartet wird, ist der zugehörige Code in der Konsole sichtbar

```
demo(nlm)
```

```
> demo(nlm)
```

# DIE FUNKTION APROPOS

- findet alles, was den angegebenen String enthält:

```
apropos("lm")
```

```
## [1] ".colMeans"      ".lm.fit"         "colMeans"
## [4] "confint.lm"     "contr.helmert"   "dummy.coef.lm"
## [7] "getAllMethods"  "glm"             "glm.control"
## [10] "glm.fit"        "KalmanForecast"  "KalmanLike"
## [13] "KalmanRun"      "KalmanSmooth"    "kappa.lm"
## [16] "lm"             "lm.fit"          "lm.influence"
## [19] "lm.wfit"        "model.matrix.lm" "nlm"
## [22] "nlminb"         "predict.glm"     "predict.lm"
## [25] "residuals.glm"  "residuals.lm"    "summary.glm"
## [28] "summary.lm"
```

# Suchmaschine für die R-Seite

```
RSiteSearch("glm")
```

## R Site Search

Query:   [\[How to search\]](#)

Display:  Description:  Sort:

Target:

☒ Functions

☒ Task views

For problems WITH THIS PAGE (not with R) contact [baron@upenn.edu](mailto:baron@upenn.edu).

## Results:

References:

- **views:** [ glm: 11 ]
- **vignettes:** [ (can't open the index) ]
- **functions:** [ glm: 4391 ]

**Total 4402 documents matching your query.**

1. [R: Bias reduction in Binomial-response GLMs](#) (score: 299)

**Author:** *unknown*

**Date:** *Fri, 14 Jul 2017 10:27:38 -0500*

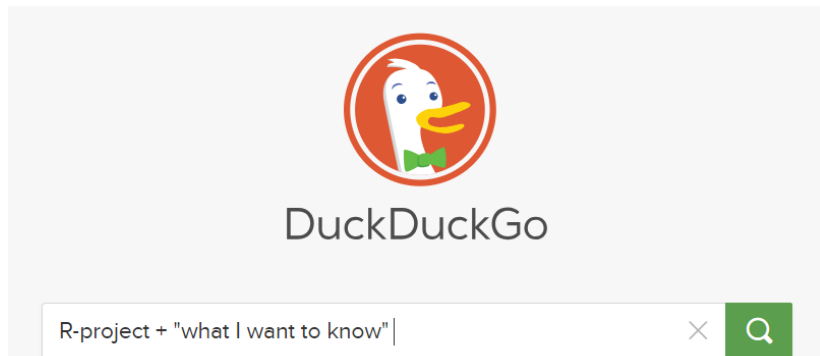
Bias reduction in Binomial-response GLMs Description Usage Arguments Details Value Warnings  
brglm {brglm} R Documentation Fits bino

# NUTZUNG VON SUCHMASCHINEN

- ▶ Ich nutze **duckduckgo.de**:

R-project + "was ich schon immer wissen wollte"

- ▶ das funktioniert natürlich für alle Suchmaschinen!





# Stackoverflow

- ▶ Für alle Fragen zum Programmieren
- ▶ Ist nicht auf R fokussiert - aber es gibt **viele Diskussionen zu R-Fragen**
- ▶ Sehr detaillierte Diskussionen

The screenshot shows the Stack Overflow website interface. At the top, there's a navigation bar with links for Questions, Jobs, Documentation (marked BETA), Tags, and Users. A search bar contains the letter 'r'. To the right are links for Log In and Sign Up. Below the navigation bar, the 'Tagged Questions' section for 'r' is active. It shows a list of tags: info, newest, featured (8), frequent, votes, active, and unanswered. A description of R is provided: 'R is a free, open-source programming language and software environment for statistical computing, bioinformatics, and graphics. Please supplement your question with a minimal reproducible example. Use dput() for data and specify all non-base packages with library calls. For statistical questions ...'. Below this, there's a link to 'learn more...' and a list of related tags: top users, synonyms (2), and r jobs. The main question displayed is 'How to make a great R reproducible example?' with 1776 votes and 22 answers. It includes a snippet of text about discussing performance and a link to a community wiki. To the right, there's a section for 'R Language DOCUMENTATION' with a link to 'Find a request to handle or browse 121 topics.' Below that, a 'Related Tags' section lists ggplot2 (2875), dataframe (1351), and plot (1105).

stackoverflow Questions Jobs Documentation BETA Tags Users  ? Log In Sign Up

Tagged Questions info newest **8 featured** frequent votes active unanswered

R is a free, open-source programming language and software environment for statistical computing, bioinformatics, and graphics. Please supplement your question with a minimal reproducible example. Use dput() for data and specify all non-base packages with library calls. For statistical questions ...

[learn more...](#) [top users](#) [synonyms \(2\)](#) [r jobs](#)

1776 votes  
**22** answers  
147k views

[r](#) [r-faq](#)

**How to make a great R reproducible example?**

When discussing performance with colleagues, teaching, sending a bug report or searching for guidance on mailing lists and here on SO, a reproducible example is often asked and always helpful. What ...

community wiki  
11 revs, 8 users 54%  
Hack-R

22,187 frequent questions tagged

[r](#) [about »](#)

**R Language**  
DOCUMENTATION

[Find a request to handle](#) or [browse 121 topics](#).

**Related Tags**

[ggplot2](#) × 2875  
[dataframe](#) × 1351  
[plot](#) × 1105

# EIN SCHUMMELZETTEL FÜR BASIS R

<https://www.rstudio.com/resources/cheatsheets/>

## Base R Cheat Sheet

### Getting Help

#### Accessing the help files

##### ?mean

Get help of a particular function.

**help.search('weighted mean')**

Search the help files for a word or phrase.

**help(package = 'dplyr')**

Find help for a package.

#### More about an object

##### str(iris)

Get a summary of an object's structure.

##### class(iris)

Find the class an object belongs to.

### Using Packages

##### install.packages('dplyr')

Download and install a package from CRAN.

##### library(dplyr)

Load the package into the session, making all its functions available to use.

##### dplyr::select

Use a particular function from a package.

##### data(iris)

Load a built-in dataset into the environment.

### Vectors

#### Creating Vectors

c(2, 4, 6)	2 4 6	Join elements into a vector
2:6	2 3 4 5 6	An integer sequence
seq(2, 3, by=0.5)	2.0 2.5 3.0	A complex sequence
rep(1:2, times=3)	1 2 1 2 1 2	Repeat a vector
rep(1:2, each=3)	1 1 1 2 2 2	Repeat elements of a vector

#### Vector Functions

<b>sort(x)</b> Return x sorted.	<b>rev(x)</b> Return x reversed.
<b>table(x)</b> See counts of values.	<b>unique(x)</b> See unique values.

#### Selecting Vector Elements

##### By Position

<b>x[4]</b>	The fourth element.
<b>x[-4]</b>	All but the fourth.
<b>x[2:4]</b>	Elements two to four.
<b>x[-(2:4)]</b>	All elements except two to four.
<b>x[c(1, 5)]</b>	Elements one and five.

### Programming

#### For Loop

```
for (variable in sequence){  
  Do something  
}
```

##### Example

```
for (i in 1:4){  
  <- i + 10  
  print(i)  
}
```

#### While Loop

```
while (condition){  
  Do something  
}
```

##### Example

```
while (i < 5){  
  print(i)  
  i <- i + 1  
}
```

#### If Statements

```
if (condition){  
  Do something  
} else {  
  Do something different  
}
```

##### Example

```
if (i > 3){  
  print('Yes')  
} else {  
  print('No')  
}
```

#### Functions

```
function_name <- function(var){  
  Do something  
  return(new_variable)  
}
```

##### Example

```
square <- function(x){  
  squared <- x*x  
  return(squared)  
}
```

### Reading and Writing Data

Also see the **readr** package.

Input	Output	Description
<code>df &lt;- read.table('file.txt')</code>	<code>write.table(df, 'file.txt')</code>	Read and write a delimited text file.

# MEHR SCHUMMELZETTEL

## Regular Expressions



Basics of regular expressions and pattern matching in R by Ian Kopacka. Updated 09/16.

DOWNLOAD

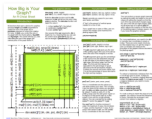
## The leaflet package



Interactive maps in R with leaflet, by Kejia Shi. Updated 05/17.

DOWNLOAD

## How big is your graph?



Graph sizing with base R by Stephen Simon. Updated 10/16.

DOWNLOAD

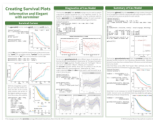
## The eurostat package



R tools to access the eurostat database, by rOpenGov. Updated 03/17.

DOWNLOAD

## The survminer package



Elegant survival plots, by Przemysław Biecek. Updated 03/17.

DOWNLOAD

## The sjmisc package



dplyr friendly Data and Variable Transformation, by Daniel Lüdtke. Updated 08/17.

DOWNLOAD

# Quick R

- ▶ Viele Beispiele und Hilfe bezüglich eines Themas
- ▶ Beispiel: **Quick R - Getting Help**



R Tutorial | R Interface | Data Input | Data Management | Statistics | Advanced Statistics | Graphs | Advanced Graphs

## < R Interface

Getting Help

The Workspace

Input/Output

Packages

Graphic User Interfaces

Customizing Startup

Publication Quality Output

Batch Processing

Reusing Results

## Getting Help

Once R is installed, there is a comprehensive built-in help system. At the program's command prompt you can use any of the following:

```
help.start()  # general help
help(foo)     # help about function foo
?foo         # same thing
apropos("foo") # list all functions containing string foo
example(foo)  # show an example of function foo
```

# WEITERE LINKS

- **Überblick - wie bekommt man Hilfe in R**



[\[Home\]](#)

**Download**

[CRAN](#)

## Getting Help with R

### Helping Yourself

Before asking others for help, it's generally a good idea for you to try to help yourself. R includes extensive facilities for accessing documentation and searching for help. There are also specialized search engines for accessing information about R on the internet, and general internet search engines can also prove useful ([see below](#)).

- **Eine Liste mit HowTo's**
- **Eine Liste mit den wichtigsten R-Befehlen**

# AUFGABE Hilfe bekommen

## HILFE FÜR `which.min`

- ▶ Tippe den Befehl `?which.min` in die Konsole. Dies öffnet eine Hilfeseite im unteren rechten Fenster von RStudio. Wofür kann man die Funktion `which.min` nutzen?
- ▶ Der Name der Funktion muss bekannt sein, um die Hilfeseite so zu öffnen. Manchmal (oft, sogar) kennen man den Namen der R-Funktionen nicht; dann kann eine **Suchmaschine** helfen. Suche bspw. mit den Begriffen `R minimum vector`.
- ▶ Quelle: - LABORATORY FOR APPLIED STATISTICS: Intro to R - **Exercises**