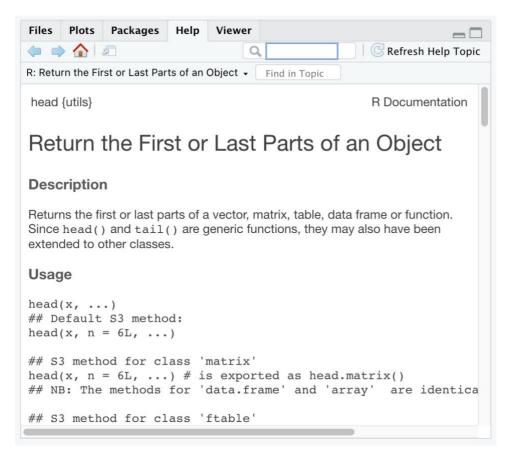
Seeking Help in R Holly Tibble

One of the most useful skills that you can learn when starting to code is how and where to get help. It doesn't matter how long you've been coding for; there are always going to be times when you don't know how to do something. Knowing what is it that you don't know is the first step. In this subtopic, we will review some of the keywords that will be helpful when searching online for guidance, overview some of the best places to look, and show you some useful resources to bookmark and download for reference.

R built-in help function

If you already know what function you want to use but don't know how to use it, the built-in R helper is here! By typing '?' and then the name of the function right into the console (the bit where the results come out) it opens up the help page on that function in the help window on the right. So, for example, if you want to know about the head function, which shows you the first ten rows of the data in the console, you type ?head.





The help window will list the different arguments of the function (the things you can write inside the brackets), which for head() are the name of the dataset, the number of rows to display, and a few others that are less used. Some reproducible examples are also at the bottom if more clarification is needed (which is often useful for more complicated functions).

It's worth noting that the help window will only display if you have already loaded the necessary package. Alternatively, you can use ??function_name to search through all functions matching that name in any published package. There may be multiple functions with the same name in different packages.

Knowing what to ask

When a student asks me for help, I often hear them say they tried to Google for help, but they weren't sure what to ask. Having the correct search terms can be a really important start when looking for help online, so I have compiled a list of some of the key terms you might need to describe your dilemma.

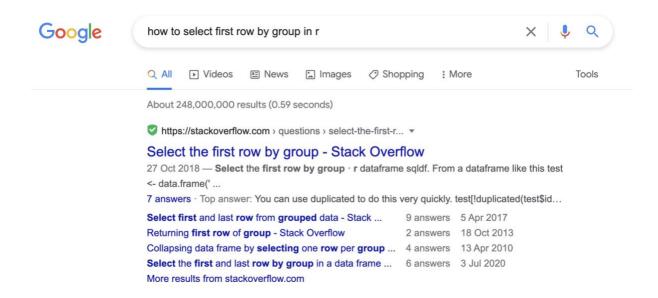
Term	Meaning
function	You don't need to reinvent the wheel most of the time in R – being open source means that lots of people have already spent the time making shortcuts for you to do complicated things. So for most of the things you want to do, there'll be a function for it! Functions are usually denoted name() to symbolise that information has to be passed in through the brackets.
package	Base R is the name for the functions available in R without you having to do anything else. Any other functions will be available from external packages, which you can install (once) and load (every session).
join	Combining two datasets – either adding more columns, more rows, or both. Joins rely on common variables, like an identity (ID) number, or a country, etc. It can also be used to subset a dataset based on the entries in another.
bind	A bind is another way of combining datasets, but it is a little less sophisticated than a join. Binds can combine datasets to add more rows or columns (not both at the same time), and the only requirements are that columns have the name names when binding rows or datasets have the same number of rows when binding columns.
vector	A vector is an ordered collection of elements that are all either numeric, character, or Boolean (true or false).
string	a variable in string format is an ordered set of characters: numbers, letters, and punctuation marks. It could be something simple, like a name "Holly", but it could also be numbers, like "213". If a number is saved as a string, you can no longer do maths to it. For example, "213" is not larger than "1", any more than "Holly" is larger than "Cactus".
factor	A factor is a string variable that does have an order. For example, there could be a factor variable for which "Holly" is indeed larger than "Cactus".

	Confusingly, however, "4" could be larger than "300". Each unique string
	has a different underlying numeric value.
list	A vector is a type of list. A list is an ordered collection of elements, but they are not required to all be of the same type, and they can also be multidimensional (containing sub-lists).
NA	NA means missing – some functions won't work if there is missing data unless you explicitly tell it what to do. Also, some functions may produce NAs, which would result in a warning, like if you tried to convert the word BANANA to a number.
distinct	If you have duplicated rows (usually occurs after some variables which differentiated them have been dropped), you may wish to retain only one of each. Then, you can use the distinct() function to keep only one of each of the duplicates.
Reshape, pivot	Sometimes your data contains all the information you want, but it is in the wrong format for the analysis. What you need is to reshape or pivot the data! The two types of reshape, gather() and spread(), are discussed next.
gather	Gather() turns multiple columns and turns them into two rows: one which states which column the data came from, and one with the value from the original column. In pivot terminology, this is known as a pivot longer.
spread	Spread() does the opposite of gather: it turns two columns (one of which is categorical) into columns. Also known as pivot wider.
count	Using the count() function from dplyr tells you the frequency of each unique value of a variable. You can also use the variant function add_count() which adds a new column to the data of the counts rather than summarising the data down to a frequency table.

Knowing where to ask

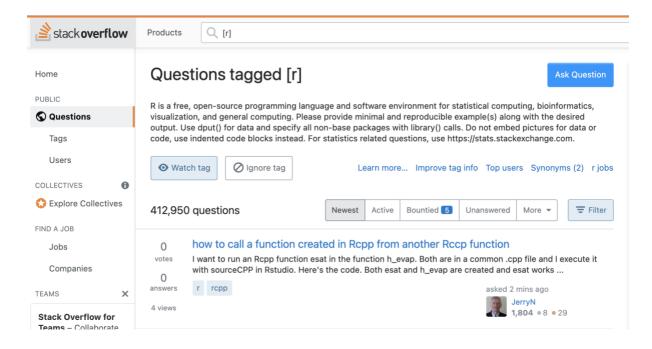
Now you have your question; you need to shout it into the void that is the internet. There are a few great places you can search for help. Google is an obvious answer, but a better solution might be to use the R-specific search function Rseek.

If you use the right keywords in Rseek or even google, it's quite likely that a Stack Overflow result will be very close to the top.



Stack Overflow is a forum website for programmers in any programming language. It will become your best friend when coding in R. Used by professionals and complete newbies alike, Stack Overflow can be a great place to ask questions and get speedy, helpful, and judgment-free responses. Do not worry about asking the same question twice; it has happened to us all! Unless you are doing something terrifyingly complicated, your question has most probably been asked before! When it happens, forum members direct you to the question and, more importantly, the solution.

You can start searches with [r] to look at only questions related to R programming.



Suppose you do post your own question related to a problem or error (rather than just asking how to do something), as well as including appropriate tags (like [r]). In that case you

should usually include a reproducible example. Here is a small bit of data (just written out as a table) and a little bit of code that produces the error. Here is a good <u>FAQ from Stack</u> <u>Overflow</u> itself on producing such an example.

Useful Resources

Basic cheat sheets:

- data importing
- <u>functions in base R</u>

Cheat sheets for common packages

- <u>dplyr</u> for general data wrangling
- <u>lubridate</u>, for handling dates and times
- <u>stringr</u>, for handling character string variables
- ggplot2, for making graphs and figures

Emmanuel Paradis's <u>R for Beginners Quick Guide</u> A table of <u>useful R functions</u>