

Functions

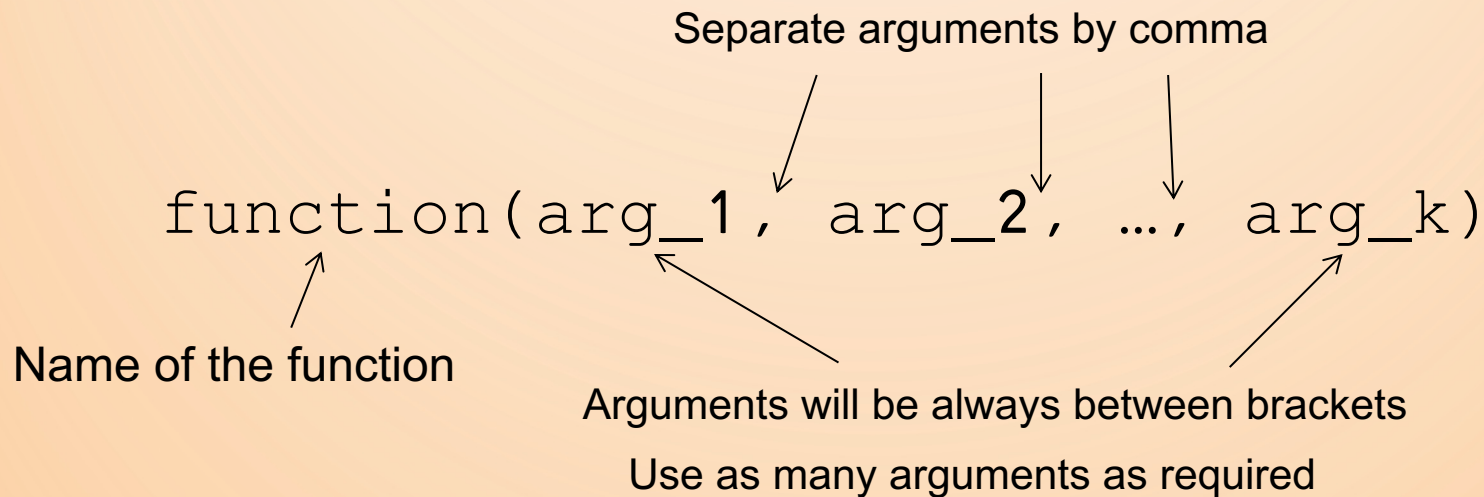
Just looking at built-in functions for now...

R built-in functions

- Almost everything in R is done through functions.
- R built-in functions are divided to:
 - Numeric functions
 - Character functions
 - Random number generators
 - Functions for logical/missing data
 - Basic reporting and statistical functions

R built-in functions

General form



Order is not important, as long as you specify what argument you are using, e.g. `function(arg1 = x, argk = y, arg2 = z)`.

Arguments can be *required* or *optional*.

R built-in functions

Numeric Functions

Function	Description
<code>abs(x)</code>	absolute value
<code>sqrt(x)</code>	square root
<code>round(x, digits=n)</code>	<code>round(3.475, digits=2)</code> is 3.48
<code>cos(x)</code> , <code>sin(x)</code> , <code>tan(x)</code>	also <code>acos(x)</code> , <code>cosh(x)</code> , <code>acosh(x)</code> , etc.
<code>log(x)</code>	natural logarithm
<code>log10(x)</code>	common logarithm
<code>exp(x)</code>	e^x

R built-in functions

Character Functions

Search for matches to argument `pattern` within each element of a character vector

```
grep(pattern, x , ignore.case=FALSE,  
fixed=FALSE)
```

```
sub(pattern, replacement, x,  
ignore.case =FALSE, fixed=FALSE)
```

R built-in functions

Character Functions

Do it yourself:

```
> test1 <- c("ATG", "GTA", "AGT",  
"TCG", "ATG")  
> i <- grep("ATG", test1, fixed=TRUE)  
> i  
> test1[i]  
> sub("ATG", "AGT", test1)
```

R built-in functions

Statistical Probability Functions

Function	Description
<code>dnorm(x)</code> <code>pnorm(q)</code> <code>qnorm(p)</code> <code>rnorm(n, m=0, sd=1)</code>	Normal density function (by default $m=0$ $sd=1$)
<code>dbinom(x, size, prob)</code> <code>pbinom(q, size, prob)</code> <code>qbinom(p, size, prob)</code> <code>rbinom(n, size, prob)</code>	Binomial distribution where size is the sample size and prob is the probability of a heads (π)
<code>dpois(x, lamda)</code> <code>ppois(q, lamda)</code> <code>qpois(p, lamda)</code> <code>rpois(n, lamda)</code>	Poisson distribution with $m=std=lamda$