R Programming Overview

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R programming content

- Data types
- Subsetting
- Reading and writing data
- Control structures
- Functions
- Scoping
- Vectorized operations
- Dates and times
- Debugging
- Simulation
- Optimization

Reading Lines of a Text File

readLines can be useful for reading in lines of webpages

```
## This might take time
con <- url("http://www.jhsph.edu", "r")
x <- readLines(con)
> head(x)
[1] "<!DOCTYPE HTML PUBLIC \"-//W3C//DTD HTML 4.0 Transitio
[2] ""
[3] "<html>"
[4] "<head>"
[5] "\t<meta http-equiv=\"Content-Type\" content=\"text/htm
```

Something's Wrong!

How do you know that something is wrong with your function? - What was your input? How did you call the function? - What were you expecting? Output, messages, other results? - What did you get? - How does what you get differ from what you were expecting? - Were your expectations correct in the first place? - Can you reproduce the problem (exactly)?

lapply

lapply takes three arguments: a list X, a function (or the name of a function) FUN, and other arguments via its ... argument. If X is not a list, it will be coerced to a list using as.list.

```
> lapply
function (X, FUN, ...)
{
    FUN <- match.fun(FUN)
    if (!is.vector(X) || is.object(X))
        X <- as.list(X)
    .Internal(lapply(X, FUN))
}
```

The actual looping is done internally in C code.