Getting help

Jeffrey Leek, Assistant Professor of Biostatistics
Johns Hopkins Bloomberg School of Public Health

Asking questions

- **In a standard class**
  - There are 30-100 people
  - You raise your hand and ask a question
  - The instructor responds
- **In a MOOC**
  - There are almost 100,000 people
  - You post a question to the message board
  - Others vote on your questions
  - Your instructor responds (as often as possible)
  - Your peers respond (as often as possible)

Often the fastest answer is the one you find yourself

- It's important to try to answer your own questions first
- If the answer to your question is in the help file or the top hit on Google, the answer to your question will be, "Read the documentation" or "Google it"
- If you figure out the answer and see the same questions on the forum, post the solution you found

Where to look for different types of questions

- R programming (see also: http://bit.ly/Ufaadn)
  - Search the archive of the class forums
  - Read the manual/help files
  - Search on the web
  - Ask a skilled friend
  - Post to the class forums
  - Post to the R mailing list or Stackoverflow
- Data Analysis/Statistics
  - Search the archive of the class forums
  - Search on the web
  - Ask a skilled friend
  - Post to the class forums
  - Post to CrossValidated

Some important R functions

Access help file

```
?rnorm
```

Search help files

```
help.search("rnorm")
```

Get arguments

```
args("rnorm")
```

```
## function (n, mean = 0, sd = 1)
## NULL
```

Some important R functions

See code

```
rnorm
```

```
## function (n, mean = 0, sd = 1)
## .Internal(rnorm(n, mean, sd))
## <bytecode: 0x7fc9fa7ce740>
## <environment: namespace:stats>
```

R reference card

http://cran.r-project.org/doc/contrib/Short-refcard.pdf

How to ask an R question

- What steps will reproduce the problem?
- What is the expected output?
- What do you see instead?
- What version of the product (e.g. R, packages, etc.) are you using?
- What operating system?

How to ask a data analysis question

- What is the question you are trying to answer?
- What steps/tools did you use to answer it?
- What did you expect to see?
- What do you see instead?
- What other solutions have you thought about?

Be specific in the title of your questions

- Bad:
  - HELP! Can't fit linear model!
  - HELP! Don't understand PCA!
- Better
  - R 2.15.0 lm() function produces seg fault with large data frame, Mac OS X 10.6.3
  - Applied principal component analysis to a matrix - what are U, D, and V^T?
- Even better
  - R 2.15.0 lm() function on Mac OS X 10.6.3 -- seg fault on large data frame
  - Using principal components to discover common variation in rows of a matrix, should I use U, D or V^T?

Etiquette for forums/help sites: DOs

- Describe the goal
- Be explicit
- Provide the minimum information
- Be courteous (never hurts)
- Follow up and post solutions
- Use the forums rather than email

Etiquette for forums/help sites: DON'Ts

- Immediately assume you found a bug
- Grovel as a substitute for doing your work
- Post homework questions on mailing lists (people don't like doing your homework)
- Email multiple mailing lists at once/the wrong mailing list
- Ask others to fix your code without explaining the problem
- Ask about general data analysis questions on R forums.

A note on Googling data analysis questions

- The best place to start for general questions is our forum
- Stackoverflow,R mailing list for software questions, CrossValidated for more general questions
- Otherwise Google "[data type] data analysis" or "[data type] R package"
- Try to identify what data analysis is called for your data type
  - Biostatistics for medical data
  - Data Science for data from web analytics
  - Machine learning for data in computer science/computer vision
  - Natural language processing for data from texts
  - Signal processing for data from electrical signals
  - Business analytics for data on customers
  - Econometrics for economic data
  - Statistical process control for data about industrial processes
  - etc.

Further resources

- Some R resources you might find useful
  - Roger's Computing for Data Analysis Videos on Youtube
  - A set of two-minute R tutorials
- Some Data Analysis Resources you might find useful
  - The Elements of Statistical Learning
  - Advanced Data Analysis from an Elementary Point of View

Credits

- Roger's Getting Help Video
- Inspired by Eric Raymond's "How to ask questions the smart way"