

Commands	Simple examples
Examining data	
\$ access values by variable name	labike\$latitude or labike\$latitude[10]
[,] access values by index	labike[10,2] or labike[10,]
summary() descriptive statistics, frequencies for type	summary(labike) or summary(labike\$type)
dim() see the dimensions of a data set	dim(labike)
length() see the length of a vector	length(labike\$type)
table() see a summary of a variable or pair of variables	table(labike\$type) or table(cdc\$gender, cdc\$eat_fruit)
class() learn the class of the object in R	class(cdc) or class(cdc\$gender)
attributes() see the attributes of an object in R	attributes(cdc\$gender)
Finding things out about data	
order() order a dataset by some variable	labike[order(labike\$bike_count_pm),]
mean() calculate the mean	mean(labike\$bike_count_pm)
median() calculate the mean	median(labike\$bike_count_pm)
min() view the smallest value	min(labike\$bike_count_pm)
max() view the largest value	max(labike\$bike_count_pm)
Putting things together	
= assign something to a variable	a = 4
c() create a vector	a = c(1,2,3) or b = c(4,5,6)
cbind() column binding	cbind(a,b)
rbind() row binding	rbind(a,b)
Subsetting	
subset() subset data	subset(labike, bike_count_pm>300)
== check if two things are equivalent	labike[10, 4]=="none"
grepl() creates a logical vector based on a text string	subset(labike, grepl("bike", labike\$type))
Maps	
MakeMap() create a map of points	MakeMap(labike\$latitude, labike\$longitude)
drawExtent() draw a zoom box for a map	e = drawExtent()
SpatialSubset() spatial subsetting	SpatialSubset(labike\$latitude, labike\$longitude, e)
Plots	
plot() make a generic plot	plot(cdc\$gender)
barplot() make a barplot	barplot(table(cdc\$gender))or barplot(table(cdc\$gender, cdc\$age))
mosaicplot() make a mosiac plot	mosaicplot(table(cdc\$gender, cdc\$eat_fruit))
hist() make a histogram	hist(cdc\$weight)
boxplot() make a boxplot	boxplot(cdc\$weight) boxplot(cdc\$weight~cdc\$gender)
abline() adds a line to an existing plot	abline(v=mean(cdc\$weight, na.rm=TRUE))
Text	
InitializeText() transforms a variable of text into text data R can work with	TwitterText = InitializeText(twitterwithdate\$message)
inspect() allows you to look at text data	inspect(head(TwitterText))
ProcessText() performs a number of transformations on a corpus	GoodText = ProcessText(TwitterText)
MakeWordBar() creates a barplot of frequent words	MakeWordBar(GoodText)
MakeWordCloud() creates a word cloud of frequent words	MakeWordCloud(GoodText)

Tips and tricks

Simple examples

Opening RStudio

Go to <http://rstudio.mobilizingcs.org/> and enter your username and password

If you don't know your username or password, contact Mobilize support

Uploading data

Click the "Upload" button in the Files pane and browse to the file you want to upload

Opening data

To load in csv files click the "Import Dataset" button in the Workspace pane or use `read.csv()`

To load rda files, click on file name in the Files pane or use `load()`

To load robj files, use `dget()` (no dynamic way to do it)

```
labike = read.csv("~/labike.csv")
```

```
load("~/cdc.rda")
```

```
twitter = dget("NJTwitter.robj")
```

Finding help

1. Your first step should always be to use `help()`

2. Then, ask a classmate

3. If that doesn't work, try google

4. Finally, email someone on the Mobilize team

```
help(plot)
```

```
"Do you know how to add a title to a plot?"
```

```
"R statistics add title to plot"
```

```
mobilize-support@cs.ucla.edu
```

Code completion

Use the "tab" key to see options for code or variables

Code history

Use the "up" arrow to see commands you've previously typed

Saving a plot

Click on the "export" button at the top of the Plots pane

Closing RStudio

The best way to close RStudio is to click on the "Sign Out" button at the top right corner