R Cheatsheet

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# Control statements

## Iterating through a vector

id = 1:3

for (i in id) {

cat(i, "\n")

}

|  |
| --- |
| 1  2  3 |
|  |
| |  | | --- | |  | |

# data.frames

## Append a row to a data.frame

> df

id nobs

1 1 2

> df <- rbind(df, data.frame(id=17, nobs=34))

> df

id nobs

1 1 2

2 17 34

## Create a data.frame from scratch

> df <- data.frame(id=integer(), nobs=integer())

> df <- rbind(df, data.frame(id=1, nobs=2))

> df

id nobs

1 1 2

## Get a cell of data from a data.frame

> pollutantData[1,]

Date sulfate nitrate ID

1 2003-01-01 NA NA 1

> pollutantData[1,"ID"]

[1] 1

## Get the column names of a data.frame

> colnames(outcomeData)

## Get the number of rows in a data.frame

|  |
| --- |
| > nrow(data1)  [1] 153 |
|  |
| |  | | --- | |  | |

## Get a Row of Data from a data.frame

|  |
| --- |
| data1[1,]  Ozone Solar.R Wind Temp Month Day  1 41 190 7.4 67 5 1 |
|  |
| |  | | --- | |  | |

## Select Rows which meet criteria

> test <- iris[iris$Species=="virginica", ]

> test

Sepal.Length Sepal.Width Petal.Length Petal.Width Species

101 6.3 3.3 6.0 2.5 virginica

102 5.8 2.7 5.1 1.9 virginica

103 7.1 3.0 5.9 2.1 virginica

## Select Columns from a data.frame

outcomeData <- outcomeData[, c(2, 7, column)]

Here, columns 2, 7, and one additional column are retained

# Data Types

## Get the type of an object

|  |
| --- |
| > x <- 4  > class(x)  [1] "numeric" |
|  |
|  |

# Environment

## Change the Working Directory

> setwd("c:/r/Prog3")

> getwd()

[1] "c:/r/Prog3"

## Get the Working Directory

> getwd()

[1] "C:/Users/Bruce/Documents"

>

## List the Files in the Working Directory

dir()

## Load a Function into the Environment

source(“myCode.R”)

## List the Functions Available in the Environment

ls()

# Matrices

## Create a matrix

x <- matrix(c(1,2,3,4), 2,2)

> x

[,1] [,2]

[1,] 1 3

[2,] 2 4

# Misc

## Printing a variable to the console

for (i in id) {

**cat(i, "\n")**

}

# Reading Data

## Read a CSV file into a data.frame

> data1 <- read.csv("hw1\_data.csv")

> data1

Ozone Solar.R Wind Temp Month Day

1 41 190 7.4 67 5 1

2 36 118 8.0 72 5 2

3 12 149 12.6 74 5 3

# Strings

## Concatenate two strings

|  |
| --- |
| > paste("a","b", sep = "")  [1] "ab" |
|  |
| |  | | --- | | > |   > paste0("1","2")  [1] "12" |

## Padding a string with zeros

> sprintf("%03d", 17)

[1] "017"

# Vectors

## Creating a vector

> a = 1:2

> a

[1] 1 2

## Iterating over a vector

for (i in id) {

writeLines(paste(i))

}

|  |
| --- |
| 1  2 |
|  |
| |  | | --- | |  | |

## Length of a vector

> bad <- ozone\_col[is.na(ozone\_col)]

> length(bad)

[1] 37

## Return valid elements of a vector

|  |
| --- |
| > a  [1] 1 2 NA 4  > a[complete.cases(a)]  [1] 1 2 4 |
|  |
| |  | | --- | |  | |