Work Directory (WD), History, Source, Comm

WD - is the computer folder with the file you read in or save out.

`getwd()` See current WD

`getwd()` Set, change WD

`dir()` Lists content of the dir

History

```
savehistory(file="Name.Rhistory")
loadhistory(file="Name.Rhistory")
sink("name.txt") sink()
```

open-close connection

Source

```
source("CommandScript.R")
```

Commands stored in scripts in WD

Created objects saved and loaded in the WD:

```
save(object, file="path")
load(file="path")
```

Commands

Erase all objects in the workspace and list rest:

```
rm()
ls()
```

(**Basics)

Data types

Atomic (fundamental) Data Types?

```
complex:
raw:
numeric:
character:
logical:
```

Hierarchy?

Character > Double > Integer > Logical

(**Basics)

Loading Data

`read.table (file="name.txt")`	txt data frame
`read.csv2 (file="name.csv")`	csv data frame
`read.spss (file="name.spss")`	spss data frame
`data (name, package="pkg")`	builtin dataset
`edit()`	opens a spread-sheet
`read.file (file="name.spss")`	library `psych` import functions.

(**Basics)

Parsing

A **parser** converts the textual representation of R code into an internal form which may then be passed to the R evaluator.

```
(p1<-parse(text="3*(2+4)"))
```

expression(3(2+4))*

```
eval(p1)
```

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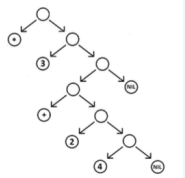
Abstract Syntax Trees (AST) that are parsed according to the language grammar

(***Advanced)

Parsing Image

```
> lobstr::ast(3*(2+4))
\- ()
   \- `*
   \- 3
   \- ()
      \ `(
      \- ()
         \- `+
         \- 2
         \- 4
```



(***Advanced)

Vectors

Vectors two types:

Atomic: all elements same type

List: a generalized vector, elements can have different types

Ex: `vec <- c(1, 5, 4, 9, 0)`

Name the elements:

```
(vec <- c(Frodo=1, Bilbo=5,
Gandal f=4))
length(x)
```

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Access the 1st element; remove the 3rd element

```
vec[1]; vec[-3]
```

Access the last element using the length

```
vec[length(vec)]
```

Access more elements

```
vec[c( 1,3)]
```

Remove more elements

```
vec[-c (1,3)]
```

Access only elements that are greater than 3

```
vec[vec>3]
```

Replace one or more elements

```
vec[c( 1,3 )]< -c(1,3)
```

Access only elements that are not NA

```
vec[!is.na(vec)]
```

Repeating

```
rep(2,5) = c(2,2, 2,2,2)
```

Sequencing

`seq(2,5,1)` *2,3,4,5*

Matrices are long Vectors

```
matrix (1:4,2) + c(1,2)
```

```
which(), any(), all()
```

R performs operations on vectors element by element

(**Basics)