

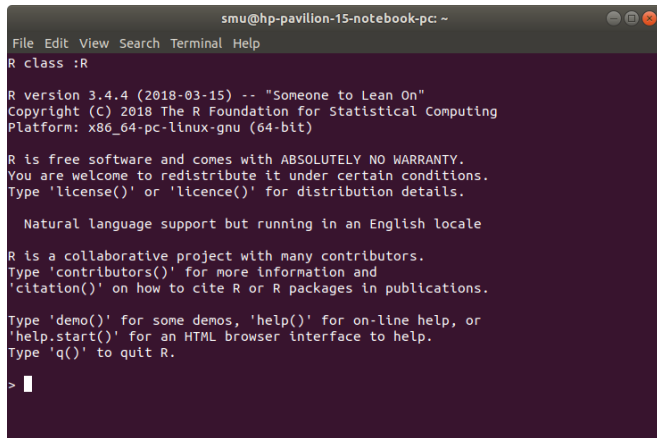
- R is an open-source compute programming language and runs on Linux, Windows, and Mac-OS.
- R is FREE.
- The R project web page
<http://www.r-project.org>

- R is modeled after S and S-Plus. The S language was developed in the late 1980s at AT & T labs.
- The R project was started by Robert Gentleman and Ross Ihaka of the Statistics Department of the University of Auckland in 1995. [*Journal of Computational and Graphical Statistics*, 5:3, pp. 299-314. 1996.]
- R is now a collaborative project with many contributors and is maintained by the R core-development team.

Installing R

- Press Ctrl+Alt+T to open Terminal
- Then execute `sudo apt-get update`
- After that, `sudo apt-get install r-base`

Starting R on Terminal

A terminal window titled 'smu@hp-pavilion-15-notebook-pc: ~' with standard window controls. The terminal shows the R startup sequence, including version information, copyright notice, and usage instructions. The prompt is '>'.

```
smu@hp-pavilion-15-notebook-pc: ~
File Edit View Search Terminal Help
R class :R

R version 3.4.4 (2018-03-15) -- "Someone to Lean On"
Copyright (C) 2018 The R Foundation for Statistical Computing
Platform: x86_64-pc-linux-gnu (64-bit)

R is free software and comes with ABSOLUTELY NO WARRANTY.
You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for distribution details.

  Natural language support but running in an English locale

R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

> 
```

Getting Started on R– as a calculator

You can try the following commands:

```
> 9 / 44
```

```
> 0.6 * 0.4 + 0.3 * 0.6
```

```
> log(0.6 * 0.4 + 0.3 * 0.6)
```

Getting Started on R— as a calculator

Your output should look like:

```
> 9 / 44
```

```
[1] 0.2045455
```

```
> 0.6 * 0.4 + 0.3 * 0.6
```

```
[1] 0.42
```

```
> log(0.6 * 0.4 + 0.3 * 0.6)
```

```
[1] -0.8675006
```

[1] at the beginning of each answer is there for a good reason.

Any data is stored in R as a *vector*. [1] represents the position of that element in the vector.

R- c function

Suppose we wish to enter attendance on 10 days in W.O.M. 2018 class.

40, 39, 15, 6, 18, 22, 30, 21, 15, 23

```
> attendance = c(40, 39, 15, 6, 18, 22, 30, 21, 15, 23)
```

R- c function

The output should be

```
> attendance = c(40, 39, 15, 6, 18, 22, 30, 21, 15, 23)
```

In the above, we have assigned values to a variable called `attendance`.

The assignment operator is `=`.

The values do not get displayed automatically unless we call it with `attendance` as below.

```
> attendance = c(40, 39, 15, 6, 18, 22, 30, 21, 15, 23)
> attendance
```

```
[1] 40 39 15  6 18 22 30 21 15 23
```