

# Introduction to R Programming

Capacity building course for  
Web Monitoring Group  
Developed by  
Victor Ordu

# Prerequisites

- a. Be able to see at a computer screen
- b. Be able to hit the keys of a computer keyboard
- c. Be willing and eager to learn
- d. Be adventurous and courageous

- R is a programming language
- developed in the 1980s for the purpose of running statistical analyses
- has become a widely used tool by data scientists and is growing in popularity.

# Advantages

## **R is great because:**

- a. It is free
- b. easy to download and install
- c. has a vibrant global community
- d. produces publication grade graphics
- e. easy to learn
- f. highly extensible (*ask what this means!*)
- g. ensures reproducibility of results
- h. encourages transparency in methodology

# Disadvantages

**R, like everything in life, has its own issues:**

- a. It has a steep learning curve i.e. difficult to master

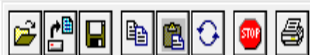
*Solution: Practice, practice, practice!*

- b. It is a quirky language as it is not that intuitive [e.g. in English – read (present tense) and read (past tense)]

*Solution: More practice!*

# R Console

- Operations in R are through a command line interface (CLI)
- Different from point-and-click software




R Console

```
R version 3.2.3 (2015-12-10) -- "Wooden Christmas-Tree"  
Copyright (C) 2015 The R Foundation for Statistical Computing  
Platform: x86_64-w64-mingw32/x64 (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.  
  
[Previously saved workspace restored]  
  
> |
```



R-console



Prompt: You pass your instructions to the program here!

- When you type your code at the prompt you hit ENTER key to run the code
- R reads code from left to right and from top to bottom



# Exercise

- Type in the following code and hit ENTER:

```
> x <- 1:10
```

- NOTE: The prompt “>” only shows you where to type.
- Now type ‘x’ again and hit ENTER
- Congrats, you have created an R object called x containing data ranging from 1 to 10!

# Conclusion

Welcome to the world of R!

Next topic will be on R Objects...