

The logo consists of the letters 'O', 'Q', and 'C' in a bold, white, sans-serif font. The 'Q' is stylized with a short tail that curves downwards and to the right.

Oxford Q-Step Centre

LAB SESSION 1

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Today

- General Information: essay + homework
- Introduction to the R interface
- Practice with R

Course Overview

- Monday Lectures
- Lab Sessions: **week 2 – 4 – 6 – 8 [55 minutes each]**
- **Lab Sessions are essential** to teach you the practical skills you need to complete the data-analysis for the final essay
- **Essay:** 2000 words on a question on the Lijphart data-base
- **Deadline:** 12 noon Tuesday 3 May 2016

Lab Sessions

- Week 2: getting to know R
- Weeks 4, 6, 8 : conducting analysis with Lijphart data-set
- Homework: due **noon** every Friday prior to labs
 - So weeks 3, 5, 7
- Solutions to homework will be discussed in the next lab session and uploaded to Weblearn in lab- weeks

eR? aR? R!

- **R** (programming language) and **R Studio** (user interface)
- It allows you to conduct statistical tests; make tables; nice graphics and visualizations
- Great news; it is free! Download it to your own laptop on:
<http://www.rstudio.com/products/rstudio/download/>

[seriously – you need to download it to work on it from home!]



Log-in details

Login:

q-step-01

q-step-02

.....

.....

q-step-10

q-step-11

Password:

q-step-01

q-step-02

.....

.....

q-step-10

q-step-11

Getting Started!

- We will be working in R- Studio
- R Studio has 3 main elements:
 - **The Script** → the document in which you write your code ; save this!
 - **The 'Global Environment'** → shows the objects you have created
 - **The 'Console'** → the screen that provides your output

R- Script



Here you type your code

You can save your script and send it to yourself

```

1 # This is an R-Script where you can type
2
3
4 # Such as simple calculations
5 10 + 12
6
7 # Make a plot
8 var1 <- rnorm(100)
9 plot(var1)
10

```

Console

Your output will be printed here

```

Console ~/
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.

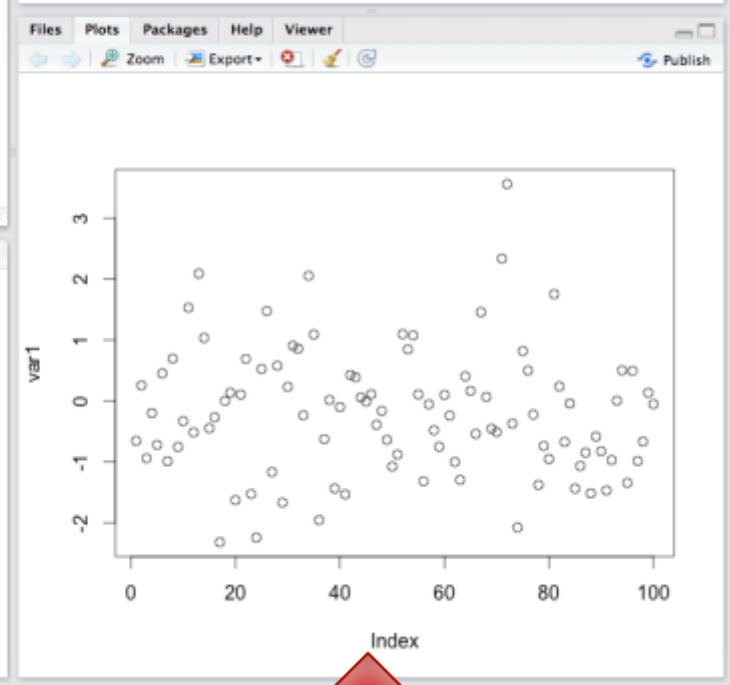
> 10 + 12
[1] 22
> data(cars)
> var1 <- rnorm(100)
> plot(var1)
>

```

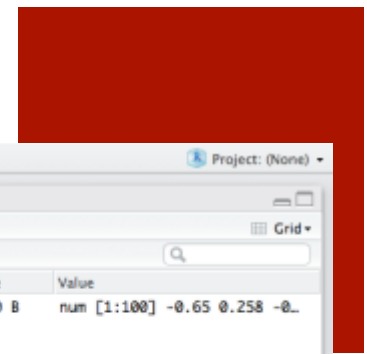
Environment



Name	Type	Length	Size	Value
var1	numeric	100	840 B	num [1:100] -0.65 0.258 -0...



Plots will be shown here



The logo for the Oxford Q-Step Centre, featuring the letters 'OQC' in a bold, white, sans-serif font on a dark red square background.

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Now it's time to **get started** with your lab sheet!

Some Swirl Commands

- `info()` – provides an overview of relevant commands
- `main()` – let's you go back to the main menu
- `skip()` – to skip the current question
- `bye()` – to exit swirl

Main Commands this Session

- the `<-` sign assigns values to a vector
- `ls()` lists all your objects in the environment
- `c()` lets you assign multiple values into 1 vector
- `dim()`, `length()`, `class()`, `summary()` give information about your vector
- `data.frame()` or `matrix()` create a matrix
- `head()`, `tail()`, `str()` give information about your data-set
- the `$` is used to refer to variables within a data-frame

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SEE YOU IN WEEK 4

