Practical Session Instructions

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Libraries

This practical session will make use of the "Tidyverse" libraries. If not already installed, please install Tidyverse before cloning the repository, using the command below or via the *Tools > Install Packages* menu in RStudio.

```
install.packages("tidyverse")
```

Repository

The term "repository" refers to the whole collection of code, data, and other files that compose a project, stored on a version-control system. This project is available on my GitHub ReproducibleResearch repository. Download the zipped repository from BlackBoard or GitHub, or clone the repository using *git* if you are familiar with the tool.

Markdown

The main tool used to create this reproducible lecture and practical on reproducibility is RMarkdown. That is an R library that allows you to create scripts that mix the Markdown mark-up language and R, to create dynamic documents. RMarkdown script can be compiled, at which point, the Markdown notation is interpreted to create the output files, while the R code is executed and the output incorporated in the document.

The core Markdown notation used in this session is presented below and its interpretation when compiled is further below.

```
# Header 1
## Header 2
### Header 3
#### Header 4
##### Header 5

**bold**
*italics*

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- Example list
    - Main folder
        - Analysis
        - Data
        - Utils
    - Other bullet poit
- And so on
```

```
    - and so forth
```

Header 1

Header 2

Header 3

Header 4

Header 5

bold *italics*

This is a link to the University of Leicester

- Example list
  - Main folder
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- And so on
  - and so forth

R Markdown

R code can be embedded in RMarkdown documents as in the example below. That will result in the code chunk be displayed within the document (as *echo=TRUE* is specified), followed by the output from the execution of the same code.

````
```{r, echo=TRUE}
for (i in 1:4) {
    if (i %% 2 == 0){
        cat("even \n")
    } else {
        cat("odd \n")
    }
}
```
````

```r
for (i in 1:4) {
    if (i %% 2 == 0){
        cat("even \n")
    } else {
        cat("odd \n")
    }
}
```

```
## odd
## even
## odd
## even
```

Build

To build all the scripts in the repository in the correct order, please execute the *Make.R* script that you can find in the main folder.

```
source('Make.R')
```