

Introduction to R

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Please:

Collect two different coloured post it notes from the demonstrators.

Course notes and data are available here:

<https://biomedicalhub.github.io/R-intro/>.

Download the data files for today's session onto your desktop and unzip the data.zip folder.

Summary of last session

- Introduction to variables
 - What they are
 - How to define
 - What we can do with them
- Learnt how to read in data from a file.
- Common programming techniques
 - Functions & arguments
 - For loops

Recap

Command – a line of code you pass to the R console

e.g. `x<-10`

Function – performs a specific task and has a name

e.g. `read.csv()`

NB commands are based on functions

Variable – a value* with a name or reference that can be changed. * can be a number, string, matrix, list...

Argument – a value that is passed to a function to specify what the function should work on or how it should work

Structure of an if else statement

```
if (condition to test) {  
    do things  
}  
else {  
    do this instead  
}
```

Exercise

```
value<-101
if(value > 100 & value < 300
    & value != 102) {
    print(value*2-50)
} else {
    print(value+120)
}
```

What is the output?

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Exercise

Run `help(hist)`.

Can you make the following changes to your histogram?

1. Change the colours of the bars to alternate red and blue?
2. Change the colour of the lines around the bars to white?
3. Set the y-axis to display the density rather than the frequency.