Simple example of Sweave

Aedin Culhane

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Contents

1 Introduction

Just a simple introduction to Sweave.

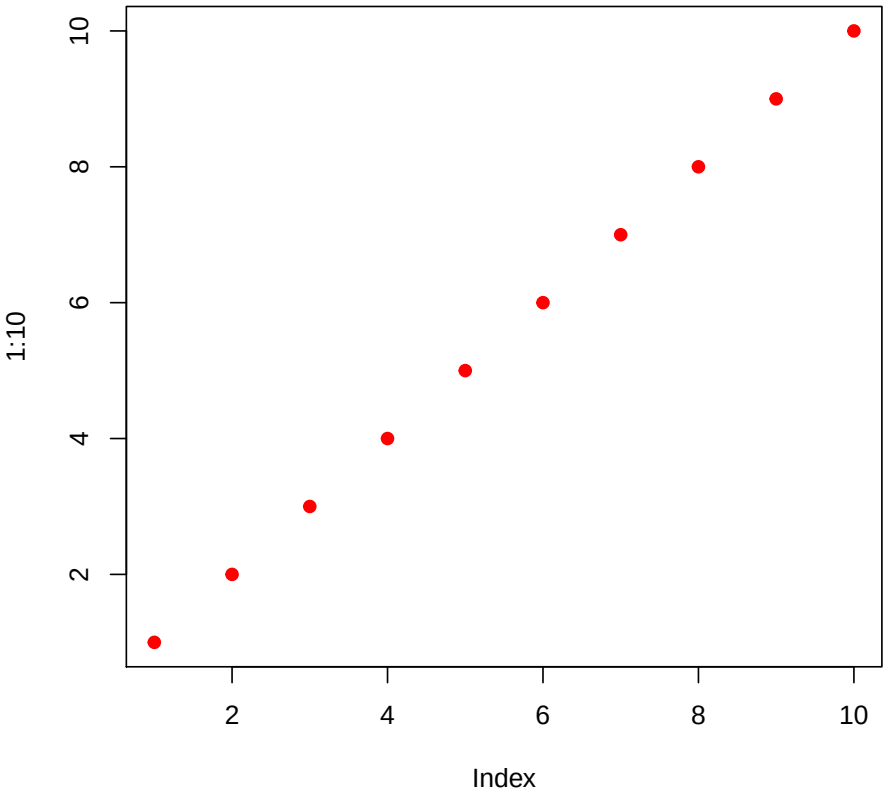
```
> a=1
> b=4
> a+b

[1] 5

> print("hello")

[1] "hello"
```

We can call R commands from the text. For example a+b= 5

2 Including a Plot

Now for a plot. Note we include fig=TRUE, which prints the plot within the document

```
> plot(1:10, col="red", pch=19)
```



Thats it.... simple hey!

2.1 More on Plots

To make the plot a little nicer, we can add a caption. Also let's change the size of the plot to be 4" in height and 6" in width

```
> par(mfrow=c(1,2))
> plot(1:10, col="green", pch=21)
> barplot(height=sample(1:10,5), names=LETTERS[1:5], col=1:5)
```

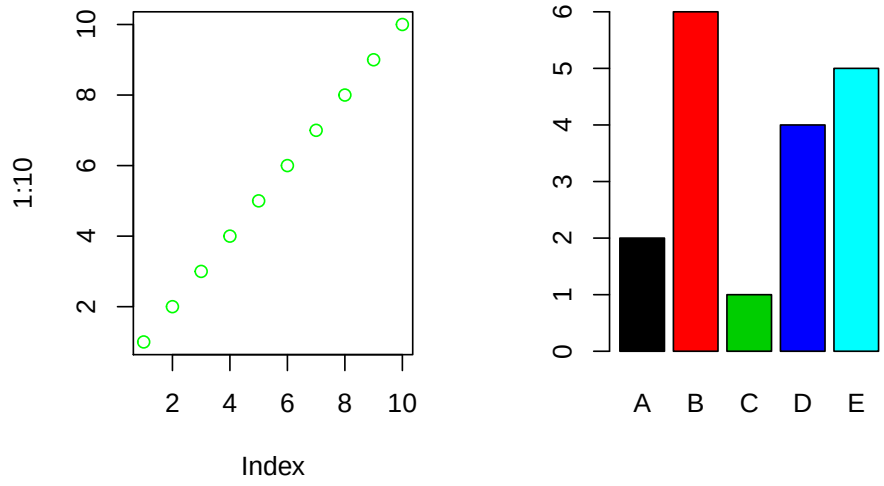


Figure 1: Plot of 1:10 and a bar plot beside it in a figure that is 4x6 inches

2.2 Creating a table

Lets include a table using the dataset, which is included in the default core installation of R. It contains the height and weight of 15 women.

```
> require(xtable)
> myTable <- summary(women)
```

We can manually encode a table in latex

$Min.$: 58.0	$Min.$: 115.0
$1stQu.$: 61.5	$1stQu.$: 124.5
$Median$: 65.0	$Median$: 135.0
$Mean$: 65.0	$Mean$: 136.7
$3rdQu.$: 68.5	$3rdQu.$: 148.0
$Max.$: 72.0	$Max.$: 164.0

But it is much easier to use the package *xtable*. We use the function `require` to load the package.

```
> xtab <- xtable(myTable)
> print(xtab, floating=FALSE)
```

	height	weight
X	Min. :58.0	Min. :115.0
X.1	1st Qu.:61.5	1st Qu.:124.5
X.2	Median :65.0	Median :135.0
X.3	Mean :65.0	Mean :136.7
X.4	3rd Qu.:68.5	3rd Qu.:148.0
X.5	Max. :72.0	Max. :164.0

2.3 More on tables

Let make the table nice. Lets exclude the row numbers and include a caption on the table. We can also tag the table so we reference Table 1 in the text

```
> xtab2<-xtable(myTable, caption="Summary of women data",  label="Table:women")
> print(xtab2,include.rownames = FALSE)
```

height	weight
Min. :58.0	Min. :115.0
1st Qu.:61.5	1st Qu.:124.5
Median :65.0	Median :135.0
Mean :65.0	Mean :136.7
3rd Qu.:68.5	3rd Qu.:148.0
Max. :72.0	Max. :164.0

Table 1: Summary of women data

3 SessionInfo

```
> sessionInfo();

R version 3.5.3 Patched (2019-03-11 r77184)
Platform: x86_64-apple-darwin15.6.0 (64-bit)
Running under: macOS Mojave 10.14.6

Matrix products: default
BLAS: /Library/Frameworks/R.framework/Versions/3.5/Resources/lib/libRblas.0.dylib
LAPACK: /Library/Frameworks/R.framework/Versions/3.5/Resources/lib/libRlapack.dylib

locale:
[1] en_CA.UTF-8/en_CA.UTF-8/en_CA.UTF-8/C/en_CA.UTF-8/en_CA.UTF-8

attached base packages:
[1] stats     graphics  grDevices utils     datasets  methods   base

other attached packages:
[1] xtable_1.8-4

loaded via a namespace (and not attached):
[1] compiler_3.5.3 tools_3.5.3

>
```