A test document

INSTRUCTOR VERSION

1 Always-visible code

Let's pretend we're writing a real lab handout. We'd start with some example code that the students might want run, but the code shown here wouldn't actually work as written.

```r
# This would cause an error if actually executed
model = lm( your dummy ~ formula here, data = your data frame)
```

But here's some code that does execute properly, because both of the chunk options `echo` and `eval` are `TRUE`:

```r
# Generate some data
x = seq(1,10)
y = x * 3 + rnorm(10,3,2)
# Run a correlation test
cor.test(x,y)

##
##  Pearson's product-moment correlation
##
## data:  x and y
## t = 14.789, df = 8, p-value = 4.3e-07
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
##  0.9239779 0.9959263
## sample estimates:
##       cor
## 0.9821992
```

By default, `knitr` adds two hashmarks ahead of the output that is returned by R, as seen above for the output of the correlation test.

2 Hiding instructor code

Next we'll write some R chunks that only show up when `showInstruct=TRUE`. If this is the instructor version, you should see some R code to generate more data and another correlation test. But if this is the student version, there should be no R code immediately below this line in the PDF document.

```r
# Generate some data
x2 = runif(20, min = 0, max = 40)
y2 = x2 * 3 + rnorm(20,3,2)
cor.test(x2,y2)

##
##  Pearson's product-moment correlation
##
## data:  x2 and y2
## t = 74.518, df = 18, p-value < 2.2e-16
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
##  0.9958217 0.9993748
## sample estimates:
##       cor
## 0.9983832
```

If the instructor code was activated, you should have seen a chunk of R output above this line in the PDF document.

> **Exercise:** In the student version, this boxed section would contain a question to be answered.

We can also include some regular text that will only appear in the instructor version. A box with text should appear below in the PDF document if the instructor version is active, but in the student version the next section will start instead.

> **Instructor output:** Here is where I would include the expected answer to the exercise question just above. The other instructors appreciate having some guide as to what on earth I was expecting as an answer.

3   Figures

Including a figure in the student and instructor version is fairly straightforward if you're used to writing TeX code.

```r
plot(x,y, type = 'b', las = 1, main='Student version')
```
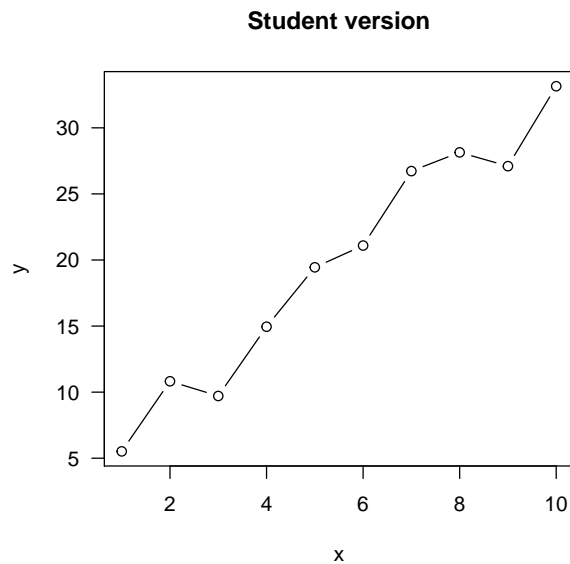
Student version

Figure 1: A simple plot, included by default in both student and instructor versions of the handout.

Next we'll try the instructor-only plotting. A figure should only show up when you have set `showInstruct=TRUE` up near the start of the .Rnw document (line 63 on this file). But if this is the student version, there will be nothing after this line.

```
# Instructor plotting code
plot(x2,y2, type = 'p', las = 1, pch = 20, col = 'firebrick',
     main = 'Instructor-only plot')
```


Figure 2: **Instructor output:** this plot only appears on the instructor version.