1 Quiz for Week 3

Using the help files

- For many questions on this weeks quiz, reading the help files can help the user determine the correct answers quickly.
- Some of the options are not the actual names of the R commands.
- It is also useful to learn about other commands, even if they are obviously not the correct answer

```
help(plot)
help(hist)
```

The lattice package

Question 1

Which of these functions opens a graphics device in R?

(a) save()

(b) pdf()

(c) axis()

(d) serialize()

Question 2

Which function opens the default graphics device on Windows?

(a) xfig()

(b) jpeg()

(c) windows()

(d) postscript()

Question 3

Which of the following functions is part of the base graphics system?

(a) barchart()

(b) histogram()

(c) xyplot()

(d) plot()

Question 4

Which of the following functions is generally used to annotate a plot in the base graphics system?

(a) barplot()

(b) points()

(c) plot()

(d) hist()

Question 5

What does the 'pch' option to `par()` control?

(a) the plotting symbol/character in the lattice graphics system

(b) the line width in the base graphics system

(c) the plotting symbol/character in the base graphics system

(d) the orientation of the axis labels on the plot

Question 6

Under the lattice graphics system, what do the primary plotting functions return?

(a) an object of class 'lattice'

(b) an object of class 'plot'

(c) nothing; only a plot is made

(d) an object of class 'trellis'

Question 7

What is produced by the following R code?

```
library(nlme)
library(lattice)
xyplot(weight ~ Time | Diet, BodyWeight)
```

(a) A set of 3 panels showing the relationship between weight and time for each rat.

(b) A set of 3 panels showing the relationship between weight and time for each diet.

(c) A set of 16 panels showing the relationship between weight and time for each rat.

(d) A set of 11 panels showing the relationship between weight and diet for each time.

```
> summary(BodyWeight)
     weight           Time             Rat      Diet
 Min.   :225.0   Min.   : 1.00   2      : 11   1:88
 1st Qu.:267.0   1st Qu.:15.00   3      : 11   2:44
 Median :344.5   Median :36.00   4      : 11   3:44
 Mean   :384.5   Mean   :33.55   1      : 11
 3rd Qu.:511.2   3rd Qu.:50.00   8      : 11
 Max.   :628.0   Max.   :64.00   5      : 11
                                 (Other):110

> levels(BodyWeight$Diet)
[1] "1" "2" "3"
>
> levels(BodyWeight$Rat)
 [1] "2"  "3"  "4"  "1"  "8"  "5"  "6"  "7"
 [9] "11" "9"  "10" "12" "13" "15" "14" "16"
```

Question 8

Which of the following functions can be used to annotate a panel in a multi-panel lattice plot?

(a) lines()

(b) axis()

(c) lpoints()

(d) text()

Question 9

Which R code makes a plot with the Greek letter 'theta' in the title?

(a) plot(0, 0, main = expression(theta))

(b) plot(0, 0, main = "theta")

(c) plot(0, 0, main = expression("theta")

(d) plot(0, 0, main = substitute(theta))

The set.seed() command

Question 10

What is produced at the end of this snippet of `R` code?

```
set.seed(1)
rpois(5, 2)
```

(a) A vector with the numbers 3.3, 2.5, 0.5, 1.1, 1.7

(b) A vector with the numbers 1, 4, 1, 1, 5

(c) It is impossible to tell because the result is random

(d) A vector with the numbers 1, 1, 2, 4, 1

The `rpois()` function is related to generating random numbers. Therefore option (c) would seem like a plausible answer. However the command is preceded by the `set.seed(1)` command.