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You submitted this quiz on **Wed 16 Jul 2014 12:43 PM PDT**. You got a score of **10.00** out of **10.00**.

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**Question 1**

Under the lattice graphics system, what do the primary plotting functions like xyplot() and bwplot() return?

|  |  |  |  |
| --- | --- | --- | --- |
| **Your Answer** |  | **Score** | **Explanation** |
| nothing; only a plot is made |  |  |  |
| an object of class "lattice" |  |  |  |
| an object of class "plot" |  |  |  |
| an object of class "trellis" | Correct | 1.00 |  |
| Total |  | 1.00 / 1.00 |  |

**Question 2**

What is produced by the following code?

library(nlme)

library(lattice)

xyplot(weight ~ Time | Diet, BodyWeight)

|  |  |  |  |
| --- | --- | --- | --- |
| **Your Answer** |  | **Score** | **Explanation** |
| A set of 3 panels showing the relationship between weight and time for each rat. |  |  |  |
| A set of 11 panels showing the relationship between weight and diet for each time. |  |  |  |
| A set of 3 panels showing the relationship between weight and time for each diet. | Correct | 1.00 |  |
| A set of 16 panels showing the relationship between weight and time for each rat. |  |  |  |
| Total |  | 1.00 / 1.00 |  |

**Question 3**

Annotation of plots in any plotting system involves adding points, lines, or text to the plot, in addition to customizing axis labels or adding titles. Different plotting systems have different sets of functions for annotating plots in this way. Which of the following functions can be used to annotate the panels in a multi-panel lattice plot?

|  |  |  |  |
| --- | --- | --- | --- |
| **Your Answer** |  | **Score** | **Explanation** |
| axis() |  |  |  |
| text() |  |  |  |
| panel.lmline() | Correct | 1.00 |  |
| lines() |  |  |  |
| Total |  | 1.00 / 1.00 |  |

**Question 4**

The following code does NOT result in a plot appearing on the screen device.

library(lattice)

library(datasets)

data(airquality)

p <- xyplot(Ozone ~ Wind | factor(Month), data = airquality)

Which of the following is an explanation for why no plot appears?

|  |  |  |  |
| --- | --- | --- | --- |
| **Your Answer** |  | **Score** | **Explanation** |
| The xyplot() function, by default, sends plots to the PDF device. |  |  |  |
| The object 'p' has not yet been printed with the appropriate print method. | Correct | 1.00 |  |
| There is a syntax error in the call to xyplot(). |  |  |  |
| The variables being plotted are not found in that dataset. |  |  |  |
| Total |  | 1.00 / 1.00 |  |

**Question 5**

In the lattice system, which of the following functions can be used to finely control the appearance of all lattice plots?

|  |  |  |  |
| --- | --- | --- | --- |
| **Your Answer** |  | **Score** | **Explanation** |
| trellis.par.set() | Correct | 1.00 |  |
| par() |  |  |  |
| splom() |  |  |  |
| print.trellis() |  |  |  |
| Total |  | 1.00 / 1.00 |  |

**Question 6**

What is ggplot2 an implementation of?

|  |  |  |  |
| --- | --- | --- | --- |
| **Your Answer** |  | **Score** | **Explanation** |
| a 3D visualization system |  |  |  |
| the base plotting system in R |  |  |  |
| the Grammar of Graphics developed by Leland Wilkinson | Correct | 1.00 |  |
| the S language originally developed by Bell Labs |  |  |  |
| Total |  | 1.00 / 1.00 |  |

**Question 7**

Load the `airquality' dataset form the datasets package in R.

library(datasets)

data(airquality)

I am interested in examining how the relationship between ozone and wind speed varies across each month. What would be the appropriate code to visualize that using ggplot2?

|  |  |  |  |
| --- | --- | --- | --- |
| **Your Answer** |  | **Score** | **Explanation** |
| qplot(Wind, Ozone, data = airquality) |  |  |  |
| qplot(Wind, Ozone, data = airquality, geom = "smooth") |  |  |  |
| airquality = transform(airquality, Month = factor(Month))  qplot(Wind, Ozone, data = airquality, facets = . ~ Month) | Correct | 1.00 |  |
| qplot(Wind, Ozone, data = airquality, facets = . ~ factor(Month)) |  |  |  |
| Total |  | 1.00 / 1.00 |  |

**Question 8**

What is a **geom** in the ggplot2 system?

|  |  |  |  |
| --- | --- | --- | --- |
| **Your Answer** |  | **Score** | **Explanation** |
| a statistical transformation |  |  |  |
| a method for making conditioning plots |  |  |  |
| a method for mapping data to attributes like color and size |  |  |  |
| a plotting object like point, line, or other shape | Correct | 1.00 |  |
| Total |  | 1.00 / 1.00 |  |

**Question 9**

When I run the following code I get an error:

library(ggplot2)

g <- ggplot(movies, aes(votes, rating))

print(g)

I was expecting a scatterplot of 'votes' and 'rating' to appear. What's the problem?

|  |  |  |  |
| --- | --- | --- | --- |
| **Your Answer** |  | **Score** | **Explanation** |
| The object 'g' does not have a print method. |  |  |  |
| There is a syntax error in the call to ggplot. |  |  |  |
| The dataset is too large and hence cannot be plotted to the screen. |  |  |  |
| ggplot does not yet know what type of layer to add to the plot. | Correct | 1.00 |  |
| Total |  | 1.00 / 1.00 |  |

**Question 10**

The following code creates a scatterplot of 'votes' and 'rating' from the movies dataset in the ggplot2 package. After loading the ggplot2 package with the library() function, I can run

qplot(votes, rating, data = movies)

How can I modify the the code above to add a smoother to the scatterplot?

|  |  |  |  |
| --- | --- | --- | --- |
| **Your Answer** |  | **Score** | **Explanation** |
| qplot(votes, rating, data = movies, panel = panel.loess) |  |  |  |
| qplot(votes, rating, data = movies) + stats\_smooth("loess") |  |  |  |
| qplot(votes, rating, data = movies) + geom\_smooth() | Correct | 1.00 |  |
| qplot(votes, rating, data = movies, smooth = "loess") |  |  |  |
| Total |  | 1.00 / 1.00 |  |

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