Week 4 Quiz **Please Note: No Grace Period**   Help Center

The **due date** for this quiz is **Sun 28 Jun 2015 4:30 PM PDT**.

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Question 1

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

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

○ A vector with the numbers 3.3, 2.5, 0.5, 1.1, 1.7

○ A vector with the numbers 1, 1, 2, 4, 1

○ A vector with the numbers 1, 4, 1, 1, 5

○ It is impossible to tell because the result is random

Question 2

What R function can be used to generate standard Normal random variables?

○ qnorm

○ pnorm

○ rnorm

○ dnorm

Question 3

When simulating data, why is using the set.seed() function important?

○ It can be used to generate non-uniform random numbers.

○
   It ensures that the sequence of random numbers starts in a specific place and is therefore
   reproducible.

○ It ensures that the random numbers generated are within specified boundaries.

○ It ensures that the sequence of random numbers is truly random.

Question 4

Which function can be used to evaluate the inverse cumulative distribution function for the Poisson
distribution?

○ qpois

○ ppois

○ rpois

○ dpois

Question 5

What does the following code do?

```
set.seed(10)
x <- rep(0:1, each = 5)
e <- rnorm(10, 0, 20)
y <- 0.5 + 2 * x + e
```

○ Generate uniformly distributed random data

○ Generate data from a Poisson generalized linear model

○ Generate data from a Normal linear model

○ Generate random exponentially distributed data

Question 6

What R function can be used to generate Binomial random variables?

○ qbinom

○ dbinom

○ rbinom

○ pbinom

Question 7

What aspect of the R runtime does the profiler keep track of when an R expression is evaluated?

○ the package search list

○ the function call stack

○ the global environment

○ the working directory

Question 8

Consider the following R code

```
library(datasets)
Rprof()
fit <- lm(y ~ x1 + x2)
Rprof(NULL)
```

(Assume that y, x1, and x2 are present in the workspace.) Without running the code, what percentage of the run time is spent in the 'lm' function, based on the 'by.total' method of normalization shown in 'summaryRprof()'?

○ 100%

○ It is not possible to tell

○ 23%

○ 50%

Question 9

When using 'system.time()', what is the user time?

○ It is the time spent by the CPU waiting for other tasks to finish

○ It is the time spent by the CPU evaluating an expression

○ It is the "wall-clock" time it takes to evaluate an expression

○ It is a measure of network latency

Question 10

If a computer has more than one available processor and R is able to take advantage of that, then which of the following is true when using 'system.time()'?

○ elapsed time is 0

○ user time is 0

○ user time is always smaller than elapsed time

○ elapsed time may be smaller than user time

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