Feedback — Week 4 Quiz **Please Note: No Grace Period**

Help

Thank you. Your submission for this quiz was received.

You submitted this quiz on **Mon 26 Jan 2015 11:55 AM PST**. You got a score of **10.00** out of **10.00**.

Question 1

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

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

Your Answer		Score	Explanation
A vector with the numbers 1, 1, 2, 4, 1	✔	1.00	Because the `set.seed()' function is used, `rpois()' will always output the same vector in this code.
It is impossible to tell because the result is random			
A vector with the numbers 1, 4, 1, 1, 5			
A vector with the numbers 3.3, 2.5, 0.5, 1.1, 1.7			
Total		1.00 / 1.00	

Question 2

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

Your Answer		Score	Explanation
dnorm			
rnorm	✔	1.00	Functions beginning with the `r' prefix are used to simulate random variates.
qnorm			
pnorm			
Total		1.00 / 1.00	

Question Explanation

Standard probability distributions in R have a set of four functions that can be used to simulate variates, evaluate the density, evaluate the cumulative density, and evaluate the quantile function.

Question 3

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

Your Answer		Score	Explanation
It can be used to generate non-uniform random numbers.			
It ensures that the sequence of random numbers is truly random.			
It ensures that the random numbers generated are within specified boundaries.			
It can be used to specify which random number generating algorithm R should use, ensuring consistency and reproducibility.	✔	1.00	
Total		1.00 / 1.00	

Question 4

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

Your Answer		Score	Explanation
dpois			
ppois			
rpois			
qpois	✔	1.00	Probability distribution functions beginning with the `q' prefix are used to evaluate the quantile (inverse cumulative distribution) function.
Total		1.00 / 1.00	

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
```

Your Answer		Score	Explanation
◉ Generate data from a Normal linear model	✔	1.00	
○ Generate data from a Poisson generalized linear model			
○ Generate uniformly distributed random data			
○ Generate random exponentially distributed data			
Total		1.00 / 1.00	

Question 6

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

Your Answer		Score	Explanation
◉ rbinom	✔	1.00	
○ dbinom			
○ qbinom			
○ pbinom			
Total		1.00 / 1.00	

Question 7

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

Your Answer		Score	Explanation
◉ the function call stack	✔	1.00	
○ the package search list			
○ the global environment			
○ the working directory			
Total		1.00 / 1.00	

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()'?

Your Answer		Score	Explanation
○ 23%			
○ 50%			
◉ 100%	✔	1.00	When using `by.total' normalization, the top-level function (in this case, `lm()') always takes 100% of the time.
○ It is not possible to tell			

Total	1.00 / 1.00

Question 9

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

Your Answer		Score	Explanation
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	✔	1.00	
It is the "wall-clock" time it takes to evaluate an expression			
It is a measure of network latency			
Total		1.00 / 1.00	

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()'?

Your Answer		Score	Explanation
user time is 0			
user time is always smaller than elapsed time			
elapsed time may be smaller than user time	✔	1.00	
elapsed time is 0			
Total		1.00 / 1.00	