Feedback — Week 2 Quiz

Help

You submitted this quiz on **Thu 13 Nov 2014 1:56 PM PST**. You got a score of **9.00** out of **10.00**. You can attempt again, if you'd like.

Question 1

Suppose I define the following function in R

```
cube <- function(x, n) {
        x^3
}
```

What is the result of running

```
cube(3)
```

in R after defining this function?

Your Answer		Score	Explanation
○ A warning is given with no value returned.			
○ The users is prompted to specify the value of 'n'.			
◉ The number 27 is returned	✔	1.00	Because 'n' is not evaluated, it is not needed even though it is a formal argument.
○ An error is returned because 'n' is not specified in the call to 'cube'			
Total		1.00 / 1.00	

Question 2

The following code will produce a warning in R.

```
x <- 1:10
```

```
if(x > 5) {
        x <- 0
}
```

Why?

Your Answer		Score	Explanation
(•) You cannot set 'x' to be 0 because 'x' is a vector and 0 is a scalar.	✖	0.00	
( ) 'x' is a vector of length 10 and 'if' can only test a single logical statement.			
( ) There are no elements in 'x' that are greater than 5			
( ) The expression uses curly braces.			
( ) The syntax of this R expression is incorrect.			
Total		0.00 / 1.00	

Question 3

Consider the following function

```
f <- function(x) {
        g <- function(y) {
                y + z
        }
        z <- 4
        x + g(x)
}
```

If I then run in R

```
z <- 10
f(3)
```

What value is returned?

Your Answer	Score	Explanation
( ) 16		
( ) 7		

4		
10	✔	1.00
Total		1.00 / 1.00

Question 4

Consider the following expression:

```
x <- 5
y <- if(x < 3) {
        NA
} else {
        10
}
```

What is the value of 'y' after evaluating this expression?

Your Answer		Score	Explanation
5			
3			
NA			
10	✔	1.00	
Total		1.00 / 1.00	

Question 5

Consider the following R function

```
h <- function(x, y = NULL, d = 3L) {
        z <- cbind(x, d)
        if(!is.null(y))
                z <- z + y
        else
                z <- z + f
        g <- x + y / z
        if(d == 3L)
                return(g)
```

```
        g <- g + 10
        g
}
```

Which symbol in the above function is a free variable?

Your Answer		Score	Explanation
(•) f	✔	1.00	
( ) z			
( ) d			
( ) L			
( ) g			
Total		1.00 / 1.00	

Question 6

What is an environment in R?

Your Answer		Score	Explanation
( ) an R package that only contains data			
(•) a collection of symbol/value pairs	✔	1.00	
( ) a special type of function			
( ) a list whose elements are all functions			
Total		1.00 / 1.00	

Question 7

The R language uses what type of scoping rule for resolving free variables?

Your Answer	Score	Explanation
( ) global scoping		

compilation scoping		
lexical scoping	✔	1.00
dynamic scoping		
Total		1.00 / 1.00

Question 8

How are free variables in R functions resolved?

Your Answer		Score	Explanation
The values of free variables are searched for in the environment in which the function was called			
The values of free variables are searched for in the global environment			
The values of free variables are searched for in the working directory			
The values of free variables are searched for in the environment in which the function was defined	✔	1.00	
Total		1.00 / 1.00	

Question 9

What is one of the consequences of the scoping rules used in R?

Your Answer		Score	Explanation
R objects cannot be larger than 100 MB			
All objects can be stored on the disk			
Functions cannot be nested			
All objects must be stored in memory	✔	1.00	
Total		1.00 / 1.00	

Question 10

In R, what is the parent frame?

Your Answer		Score	Explanation
It is the package search list			
It is the environment in which a function was called	✔	1.00	
It is the environment in which a function was defined			
It is always the global environment			
Total		1.00 / 1.00	