Feedback — Week 2 Quiz

Help

You submitted this quiz on **Wed 9 Apr 2014 2:40 AM PDT**. You got a score of **10.00** out of **10.00**.

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
An error is returned because 'n' is not specified in the call to 'cube'			
A warning is given with no value returned.			
The number 27 is returned	✔	1.00	Because 'n' is not evaluated, it is not needed even though it is a formal argument.
The users is prompted to specify the value of 'n'.			
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
'x' is a vector of length 10 and 'if' can only test a single logical statement.	✔	1.00	
The expression uses curly braces.			
There are no elements in 'x' that are greater than 5			
You cannot set 'x' to be 0 because 'x' is a vector and 0 is a scalar.			
The syntax of this R expression is incorrect.			
Total		1.00 / 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
NA			
5			
3			
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
○ a list whose elements are all functions			
○ a special type of function			
○ an R package that only contains data			
◉ a collection of symbol/value pairs	✔	1.00	
Total		1.00 / 1.00	

Question 7

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

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

Question 9

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

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

Functions cannot be nested			
Total		1.00 / 1.00	

Question 10

In R, what is the parent frame?

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