Feedback — Week 2 Quiz

Help Center

You submitted this quiz on **Sun 10 May 2015 6:40 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
The users is prompted to specify the value of 'n'.			
An error is returned because 'n' is not specified in the call to 'cube'			
The number 27 is returned	✔	1.00	Because 'n' is not evaluated, it is not needed even though it is a formal argument.
A warning is given with no value returned.			
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
The syntax of this R expression is incorrect.			
You cannot set 'x' to be 0 because 'x' is a vector and 0 is a scalar.			
'x' is a vector of length 10 and 'if' can only test a single logical statement.	✔	1.00	
There are no elements in 'x' that are greater than 5			
The expression uses curly braces.			
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
7		

16		
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
3			
5			
10	✔	1.00	
NA			
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			
◉ a collection of symbol/value pairs	✔	1.00	
○ an R package that only contains data			
Total		1.00 / 1.00	

Question 7

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

Your Answer		Score	Explanation
◉ lexical scoping	✔	1.00	
○ dynamic scoping			
○ global scoping			
○ compilation 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 defined	✔	1.00	
○ 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 called			
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	

Functions cannot be nested	
All objects can be stored on the disk	
R objects cannot be larger than 100 MB	
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 the environment in which a function was defined			
It is the package search list			
It is always the global environment			
Total		1.00 / 1.00	