

Feedback — Week 2 Quiz

[Help](#)

You submitted this quiz on **Sat 19 Jul 2014 11:15 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
<input type="radio"/> An error is returned because 'n' is not specified in the call to 'cube'		
<input type="radio"/> A warning is given with no value returned.		
<input type="radio"/> The users is prompted to specify the value of 'n'.		
<input checked="" type="radio"/> The number 27 is returned	✓ 1.00	Because 'n' is not evaluated, it is not needed even though it is a formal argument.
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
<input type="radio"/> You cannot set 'x' to be 0 because 'x' is a vector and 0 is a scalar.		
<input type="radio"/> There are no elements in 'x' that are greater than 5		
<input checked="" type="radio"/> 'x' is a vector of length 10 and 'if' can only test a single logical statement.	✓ 1.00	
<input type="radio"/> The syntax of this R expression is incorrect.		
<input type="radio"/> 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
<input type="radio"/> 4		
<input type="radio"/> 16		
<input type="radio"/> 7		
<input checked="" type="radio"/> 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☐ 3☐ 5☒ 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 list whose elements are all functions☐ a special type of function

Total

1.00 / 1.00

Question 7

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

Your Answer**Score****Explanation**☐ compilation scoping☐ global 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 working directory

☐ The values of free variables are searched for in the global environment

☒ 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 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

☐ R objects cannot be larger than 100 MB

☐ Functions cannot be nested

☐ All objects can be stored on the disk

Total

1.00 / 1.00

Question 10

In R, what is the parent frame?

Your Answer

Score

Explanation

☐ It is always the global environment

☐ It is the package search list

☐ It is the environment in which a function was defined

☒ It is the environment in which a function was called

✓ 1.00

Total

1.00 / 1.00