

## Feedback — Week 2 Quiz

[Help](#)

You submitted this quiz on **Wed 14 May 2014 8:09 PM CEST**. 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 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.
<input type="radio"/> An error is returned because 'n' is not specified in the call to 'cube'		
<input type="radio"/> The users is prompted to specify the value of 'n'.		
<input type="radio"/> 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
<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 type="radio"/> The expression uses curly braces.		
<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.		
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"/> 16		

☐ 4☐ 7☒ 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☒ 10

1.00

☐ 5☐ 3

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
<input checked="" type="radio"/> f	✓	1.00	
<input type="radio"/> z			
<input type="radio"/> d			
<input type="radio"/> L			
<input type="radio"/> g			
Total		1.00 / 1.00	

## Question 6

What is an environment in R?

Your Answer		Score	Explanation
<input type="radio"/> an R package that only contains data			
<input checked="" type="radio"/> a collection of symbol/value pairs	✓	1.00	
<input type="radio"/> a special type of function			
<input type="radio"/> 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
<input type="radio"/> dynamic scoping		

☐ compilation scoping

☒ lexical scoping



1.00

☐ global 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 global environment

☐ 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 working directory

Total

1.00 /  
1.00

## Question 9

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

Your Answer	Score	Explanation
<input checked="" type="radio"/> All objects must be stored in memory	✓ 1.00	
<input type="radio"/> R objects cannot be larger than 100 MB		
<input type="radio"/> Functions cannot be nested		
<input type="radio"/> 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
<input type="radio"/> It is the environment in which a function was defined		
<input type="radio"/> It is the package search list		
<input type="radio"/> It is always the global environment		
<input checked="" type="radio"/> It is the environment in which a function was called	✓ 1.00	
Total	1.00 / 1.00	

