

Feedback — Week 2 Quiz

[Help](#)

Thank you. Your submission for this quiz was received.

You submitted this quiz on **Sun 15 Jun 2014 1:51 PM 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

☐ A warning is given with no value returned.

☐ An error is returned because 'n' is not specified in the call to 'cube'

☐ 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.

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"/> 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.		
<input type="radio"/> There are no elements in 'x' that are greater than 5		
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"/> 7		
<input checked="" type="radio"/> 10	✓ 1.00	
<input type="radio"/> 4		
<input type="radio"/> 16		
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
<input type="radio"/> 5		
<input type="radio"/> 3		
<input checked="" type="radio"/> 10	✓ 1.00	
<input type="radio"/> 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
<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"/> a special type of function		

- | | | |
|---|---|------|
| <input checked="" type="radio"/> a collection of symbol/value pairs | ✓ | 1.00 |
| <input type="radio"/> an R package that only contains data | | |
| <input type="radio"/> a list whose elements are all functions | | |

Total	1.00 / 1.00
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Question 7

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

Your Answer	Score	Explanation
<input type="radio"/> global scoping		
<input checked="" type="radio"/> lexical scoping	✓ 1.00	
<input type="radio"/> compilation scoping		
<input type="radio"/> dynamic scoping		
Total	1.00 / 1.00	

Question 8

How are free variables in R functions resolved?

Your Answer	Score	Explanation
<input type="radio"/> The values of free variables are searched for in the environment in which the function was called		
<input type="radio"/> The values of free variables are searched for in the global environment		
<input type="radio"/> The values of free variables are searched for in the working directory		
<input checked="" type="radio"/> The values of free variables are searched for in the	✓ 1.00	

environment in which the function was defined

Total	1.00 / 1.00
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Question 9

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

Your Answer	Score	Explanation
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☐ R objects cannot be larger than 100 MB

☐ All objects can be stored on the disk

☒ All objects must be stored in memory ✓ 1.00

☐ Functions cannot be nested

Total	1.00 / 1.00
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Question 10

In R, what is the parent frame?

Your Answer	Score	Explanation
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☒ 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

☐ It is the package search list

Total	1.00 / 1.00
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