Print

Quiz, Lesson 7: Using Iterative DO Loops

Your Score: 100%

Congratulations! Your score of 100% indicates that you've mastered the topics in this lesson. If you'd like, you can review the feedback for each question.

When you're ready to start the next lesson, exit this lesson and begin the next one.

1. Which statement is false regarding nested DO loops?

   a. Each DO statement must have a corresponding END statement.
   b. Each DO loop must have its own index variable.
   c. Each DO loop must use the same increment value.
   d. Each DO loop can contain iterated SAS statements.

Your answer: c
Correct answer: c

When you nest DO loops, you must use different index variables for each loop, and you must be certain that each DO statement has a corresponding END statement. Each DO loop can use different increment values.

Review: Nesting DO Loops

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2. During each execution of the following DO loop, the value of **Earned** is calculated and is added to its previous value. How many times does this DO loop execute?

```
data finance.earnings;
   Amount=1000;
   Rate=.075/12;
   do Month=1 to 12;
      Earned+(Amount+Earned)*Rate;
   end;
run;
```

   a. 0
   b. 1
   c. 12
   d. 13

Your answer: c
Correct answer: c

The number of iterations is determined by the DO statement's stop value, which in this case is *12*.

Review: Constructing an Iterative DO Loop

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3. In the data set **invest**, what would be the stored value for **Year**?

```
data invest;
   do Year=2008 to 2012;
      Capital+5000;
      Capital+(Capital*.03);
   end;
run;
```

a. missing
b. *2008*
c. *2012*
d. *2013*

Your answer: d
Correct answer: d

The DO loop shown here executes five times. The initial value for **Year** is *2008*. At the end of the fifth iteration of the DO loop, the value for **Year** is incremented to *2013*. Because this value exceeds the stop value, the DO loop ends. Then, at the bottom of the DATA step, the current values are written to the output data set.

Review: Constructing an Iterative DO Loop

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4. What is the value of **X** at the completion of the DATA step?

```
data test;
   x=15;
   do while(x>12);
      x+1;
   end;
run;
```

a. *12*
b. *15*
c. *16*
d. This loop executes infinitely.

Your answer: d
Correct answer: d

This loop executes infinitely. Remember that in a DO WHILE loop, SAS evaluates the condition at the top of the loop. At the beginning of the first iteration of this loop, the value of **X** is already greater than 12, so the condition is true. With every subsequent iteration, the value of **X** increases by 1 and the condition remains true.

Review: Using the DO WHILE Statement

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5. In the following DATA step, how many times does the inner DO loop execute?

```
data invest;
   do Year=2008 to 2012;
      Capital+5000;
      do Quarter=1 to 4;
         Capital+(Capital*.03);
```

```
      end;
   end;
run;
```

a. 4
b. 8
c. 16
d. 20

Your answer: d
Correct answer: d

When this DATA step executes, the outer DO loop executes a total of 5 times, and the subsequent values of **Year** are *2008*, *2009*, *2010*, *2011*, and *2012*. Each time the outer DO loop executes, the inner DO loop executes 4 times, and the subsequent values of **Quarter** are *1*, *2*, *3*, and *4*. So, the inner DO loop executes 4 times for 5 successive iterations of the outer DO loop, for a total of 20 executions.

Review: Nesting DO Loops

6. Based on this DATA step, how many observations will the **earnings** data set contain?

```
data earnings;
   Earned=0;
   do Count=1 to 12;
      Earned+(Amount+Earned)*(Rate/12);
      output;
   end;
run;
```

a. 0
b. 1
c. 12
d. 13

Your answer: c
Correct answer: c

The OUTPUT statement writes the current observation to the output data set. Therefore, the **earnings** data set will contain one observation for each of the 12 iterations of the DO loop.

Review: Using the OUTPUT Statement in a DO Loop

7. Which of the following statements will not execute a DO loop?

a. `do i=8, 10, 4, 14;`
b. `do i=.30 to .20 by -.1;`
c. `do i=(x+10) to x;`
d. `do i=-1 to -3 by -1;`

Your answer: c
Correct answer: c

Remember that, in a DO statement, if the start value is greater than the stop value, the increment value must be negative in order for SAS to execute the loop; if the increment value is positive and the start value is greater than the stop value, the loop never executes. If you specify a negative increment value and a start value that is greater than the stop value, SAS decrements the index variable value with each iteration of the loop. Also, you can use a list of values instead of a start value, stop value, and increment value.

Review: Constructing an Iterative DO Loop

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8. How many times does the DO loop execute for the first iteration of the DATA step?

```
data work.compare(drop=i);
   set finance.cdrates;
   Investment=5000;
   do i=1 to Years;
      Investment+Rate*Investment;
   end;
run;
```

Finance.CDRates

Institution	Rate	Years
Superior Bank	0.0817	5
FirstBank	0.0814	3
Citywide Bank	0.0806	4

a. 1
b. 5
c. 3
d. 4

Your answer: b
Correct answer: b

The DO loop executes the number of times specified by the stop value. The stop value of this DO loop is the current (first) value of **Years**, which is *5*.

Review: Constructing an Iterative DO Loop

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9. How many times does this DO loop execute?

```
data test;
   x=15;
   do until(x>12);
      x+1;
   end;
run;
```

a. 0
b. 1
c. 12
d. unknown

Your answer: b
Correct answer: b

Even though the condition is met when entering the DO loop, the DO UNTIL statement always executes at least one time.

Review: Using the DO UNTIL Statement

10. What is the value of **X** at the completion of the DATA step?

```
data test;
   x=15;
   do until(x>12);
      x+1;
   end;
run;
```

a. 12
b. 15
c. 16
d. unknown

Your answer: c
Correct answer: c

The value of **X** is set to *15* at the beginning of the DATA step and increases to *16* during the one execution of the DO loop.

Review: Using the DO UNTIL Statement

Close