





## Variable Dry Run Table Puzzles (for Python)

The simplest and most reliable way to work out what a code fragment does is to draw a table. This is called tracing or dry running. Let's work out what the following fragment does:

x = 5

y = 7x = 10

y = x

Each time we come across a new variable we label a new column with that variable.

The first line creates a column for x and the second a column for y. We get this table:

X	у

Each assignment places a value in the appropriate column.

So continuing to dry run where we left off

x = 5

y = 7

We first put a value 5 in to the column for x.

Then executing the next instruction, we put a 7 in the column for y

х	у
5	
	7

We cross out any old value in a column when that variable is assigned to again.

So continuing to dry run the next part where we left off

x = 10

We cross out the 5 in the column for x and put 10 in that column instead.

x	у
_5	
0	
	7
10	

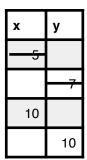
To get the value of a variable we take the last value put there (i.e. ignore values crossed out)

So if the above program continues

$$V = X$$

We go to the x column and find the LAST value placed there which is a

We place the 10 in the y column, crossing out the 7 that was already there.



The final values in each variables (here x and y) are then the last uncrossed out ones, so here x is 10 and y is 10 after the fragment has executed.







x = 5

y = 7

x = y

x	у

The final value of x is \_\_\_\_\_ The final value of y is \_\_\_\_\_

2. Fill in the dry run table then state the final values stored in each variable after the code fragment has executed.

x = 5

y = 7

y = x

I	
I	
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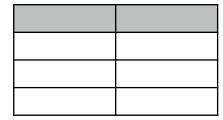
The final value of x is \_\_\_\_\_ The final value of y is \_\_\_\_\_

3. Fill in the dry run table then state the final values stored in each variable after the code fragment has executed.

y = 7

x = 5

y = x



The final value of x is \_\_\_\_\_ The final value of y is \_\_\_\_\_







red = "red"

blue = "yellow"

red = blue

The final value of red is \_\_\_\_\_ The final value of blue is \_\_\_\_\_

5. Fill in the dry run table then state the final values stored in each variable after the code fragment has executed.

y = 7

x = 5

y = x

x = 3

The final value of x is \_\_\_\_\_ The final value of y is \_\_\_\_\_

6. Fill in the dry run table then state the final values stored in each variable after the code fragment has executed.

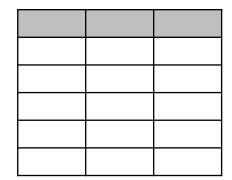
x = 1

y = 2

z = 3

y = x

x = y



The final value of x is \_\_\_\_\_ The final value of y is \_\_\_\_\_ The final value of z is \_\_\_\_\_







one = 1

two = 3

three = 2

one = two

two = three

The final value of one is

The final value of two is

The final value of three is

8. Fill in the dry run table then state the final values stored in each variable after the code fragment has executed.

a = 9

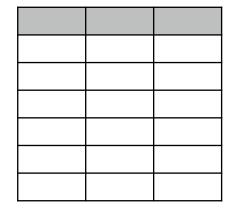
b = 7

c = 8

a = c

b = a

c = b



The final value of a is \_\_\_\_\_ The final value of b is \_\_\_\_\_ The final value of c is \_\_\_\_\_







a = 1

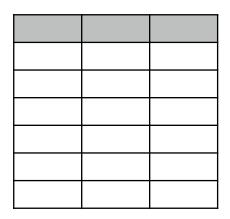
b = 2

c = 3

c = b

c = a

a = b



The final value of a is \_\_\_\_\_ The final value of b is \_\_\_\_\_ The final value of c is \_\_\_\_\_

10. Fill in the dry run table then state the final values stored in each variable after the code fragment has executed.

x = 3

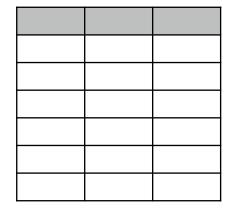
y = 2

z = 3

z = y

y = x

x = z



The final value of x is \_\_\_\_\_ The final value of y is \_\_\_\_\_ The final value of z is \_\_\_\_\_