

## PP Task 3.1 Code Tracing Additional Questions

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1. How does *Code Sample 3* illustrate the importance of **sequence** for properly functioning code?

Answer: Given that code sample 3 assigns the variable fruit before updating grapes and oranges, the order in which activities are performed is important. Fruit has become outdated as a result. If the order of operations were different, fruit would have a different, correct value.

2. What happens to the value of the variable `grapes` after the assignment statement `grapes = 7`?

Answer: The value of grapes changes from 0 to 7 after the assignment.

3. What **actions** does the computer perform when it executes the statement `d = c + b` from *Code Sample 4*? (**Hint:** Think in terms of what has been taught in class. You do *not* need to research what happens at the hardware level as that is outside the scope of the unit.)

Answer: After adding up the current values of c and b, which are 20 and 20, respectively, the computer assigns the result, 40, to the variable d.

4. Assuming a variable `i` has been defined as an `int`, how would its value change in the statement `i = i - 1`?

Answer: The value of i would decrease by 1.

5. What are the value and type of the following expressions? Treat each row independently and use the provided variables for context. We have deliberately not stated variable's types, so you may need to work that out from the values they are assigned. Note we have used multiple assignment to compactly declare and initialise multiple variables on one line.

Do not worry if Word autocorrects "straight quotes" to "smart quotes"; we will know what you mean. But if typing Python type names please do correct its auto-capitalisation (as those names should be lower case).

Variable Values	Expression	Value	Data Type
	6	6	int
	1.23	1.23	int
	"Monty Python"	Monty Python	str
	1 + 3 * 3	10	int
a, b = 1, 2	a + b	3	int
a = 2	3 * a	6	int
a, b = 1.5, 3	2 * a + b	6.0	float
a, b = 5, 2.5	a + 2 * b	10.0	Float
a, b, c = 3, 2, 1	(a + b) * c	5	int
a = "Dwarf"	"Red " + a	Red Dwarf	str
a = "Judas"	f"Arno1d {a} Rimmer"	Arnold Judas Rimmer	str
a = 6	a * "Fish "	Fish Fish Fish Fish Fish Fish	str

6. What is the most appropriate type to store the following?

Data	Most suitable type
The name of a song	str
The number of participants in a Zoom meeting	Int
Average final mark for all units completed in a semester	Float
Points scored by the winning team in a game of AFL (football)	Int
The name of a road	str

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A person's precise height in centimetres	float
An employee's fortnightly pay in dollars and cents	float
A student's ID number	str
A phone number, including the area code	str