# 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?

It illustrates by showing how the total cost value can change even though the total cost was 0 in line 5 which later changed to 66.5 as the value of items changed to 19 in line 6.

1. What happens to the value of the variable items after the assignment statement items = 19?

The value of the variable items will be assigned with the value 19.

1. What **actions** does the computer perform when it executes the statement w = z \* y 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.)

It first searches for the value of z and c to multiply them together to assign the result to the variable w.

1. Assuming a variable x has been defined as an int, how would its value change in the statement x = x + 1?

As we are only aware about the datatype of variable x which is int, so if any value is assigned to x, the given statement will add the value to 1 and assign the result to the variable x.

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 variables’ 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).

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| --- | --- | --- | --- |
| **Variable Values** | **Expression** | **Value** | **Data Type** |
|  | 11 | 11 | int |
|  | 3.25 | 3.25 | float |
|  | "Joe the Turtle" | Joe the Turtle | str |
|  | 1 + 9 / 3 | 4 | int |
| x, y = 5, 8 | x \* y | 45 | int |
| x = 2.5 | 3 \* x | 7.5 | float |
| x, y = 1.9, 7 | 4 \* x - y | 0.6 | float |
| x, y = 5.1, 0 | x + 1.9 \* y | 5.1 | float |
| x, y, z = 7, 5, 3 | (x + y) / z | 4.0 | float |
| x = "Chips" | x + "Fish " | ChipsFish | str |
| x = "Arm" | f"Strong {x} Niel" | Strong Arm Niel | str |
| x = 3 | x \* "KIT500" | KIT500KIT500KIT500 | str |

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

|  |  |
| --- | --- |
| **Data** | **Most suitable type** |
| The title of a book | str |
| The number of attendees at a conference | int |
| The median score for all courses completed in an academic year | float |
| Goals scored by the winning team in a FIFA World Cup match | int |
| The name of a train station | str |
| A person's exact weight in kilograms | int |
| An employee’s ID number (includes the initial of their department) | str |
| A student's library card number | int |
| A postal code, including any leading zeros | str |