# 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 even if the value for the variables mice and keyboard were changed, the value of equipment is not changed as equipment was calculated before the value change of variables mice and keyboard.

2. What happens to the value of the variable mice after the assignment statement mice = 4?

The value of variable mice will be equals to 4.

3. What **actions** does the computer perform when it executes the statement a = b + c 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 searches for the value assigned to b and c, then add it to assign the result to variable a.

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

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

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).

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable Values** | **Expression** | **Value** | **Data Type** |
|  | 3 | 3 | int |
|  | 3.12 | 3.12 | float |
|  | "Monty Python" | Monty Python | str |
|  | 1 + 2 \* 3 | 7 | int |
| a, b = 1, 2 | a + b | 3 | int |
| a = 2 | 4 \* a | 8 | int |
| a, b = 1.5, 2 | 2 \* a + b | 5.0 | float |
| a, b = 1.5, 2 | a + 2 \* b | 5.5 | float |
| a, b, c = 1, 2, 3 | (a + b) \* c | 9 | int |
| a = "Holy" | a + " Grail" | Holy Grail | str |
| a = "the" | f"Tim {a} Enchanter" | Time the Enchanter | str |
| a = 4 | a \* "Spam " | Spam Spam Spam Spam | str |

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

|  |  |
| --- | --- |
| **Data** | **Most suitable type** |
| The name of a TV series | str |
| The number of participants in a Zoom meeting | int |
| Average daily maximum temperature in a year | float |
| Points scored by a team in basketball | int |
| The title of a book | str |
| A person's precise weight in kilograms | float |
| The cost of a product in an online store | float |
| A student's ID number | int |
| A phone number, including area code | str |