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CIS104

Winter 2022

Midterm Exam

1. Type conversion is used to change the data type of a variable so that the data can be used in different ways. For instance, when asking for input from the user, the input will be saved as a string. But, even if they’ve typed a number, that input will not be usable for math, as python is seeing it as a string of text, rather than as a number; so, if you wanted to use that input for equations of any sort, you’d need to change it from a string to either an integer(number without any decimals) or a floating-point number(number with decimals), after which you could utilize it to calculate as needed.
2. Function definition is when you store a series of lines of code in a way that you can ‘refer’ to them later in your cade (this is ‘calling’ the function) and have it perform those series of steps as many times as you need simply by ‘calling’ the function, and not having to retype those same lines of code over and over again. ‘Calling’ the function, as I mentioned, is when you use the name of the defined function (sometimes with arguments, depends on what your function is designed to do) to perform those sets of tasks and return a value, which can then be used elsewhere.
3. The output of that code will be:

“The number is less than 8”

“The answer is 42”

The reason for this is:

1. Line 1 defines the “number” variable
2. Line 3 creates an if/else argument, where ‘number’ meets the first criterion, so we continue with that indentation of code
3. Line 4 creates a new if/else, however we miss the first criterion, so we skip down to the next line at the same indentation as line 4, which will be line 6
4. Line 6 is the else for the failed ‘if’ on line 4, and since we failed the line 4 check, we perform the indented code from here
5. Line 7 is the follow-through for the else I referenced in line 6, so we print “The number is less than 8” – this is our first printed statement
6. Line 8 is used because it falls to the check we performed for the ‘if’ statement on line 3, as it’s only indented once from that line, despite being so far below it. It’s not prevented by any other means, so it is performed after running through the ‘if’ and ‘else’ statements along the same indentation, here we print “The answer is 42” – our second print statement
7. Line 9 and 10 are ignored. Line 9 because the else statement is moot since we passed the original ‘if’, and line 10 because it is the embedded code to perform in the case of the ‘else’ we skipped.