

Quiz #5 for October 13, 2020

Please use your Python system (IDLE or something else) to compute the following. Be prepared to show your work!

1. If you want to write a program that prints integers from 1 to 19 by twos, which of the following is the most appropriate to use?
 - (a) A for loop using `range(1, 19, 2)`
 - (b) A for loop using `range(1, 20, 2)`
 - (c) A *for* loop using `range(1, 20)` and a `continue` statement to prevent the even numbers from printing
 - (d) A while loop that counts from 1 to 19 by twos, printing the numbers

Answer: (a) does not include 19, as `range()` goes up to but not including the upper number. (c) will work, but is clumsy and has an unnecessary `if` statement. (d) works, but uses a construct (`while`) intended for an indefinite loop, not a definite one. So (b) is the best answer.

2. You want to use a `while` statement to loop, reading input lines until someone types `quit`. Which of the following is the best way to do this?
 - (a) A for loop using `True` as the iterator, and an `if` statement that compares the input to `"quit"` and if they match, executes a `break`
 - (b) A while loop with `input()` to read input, and a condition that compares the input to the string `"quit"`
 - (c) A while loop with `input()` to read input, and an `if` statement that compares the input to `"quit"` and if they match, executes a `break`
 - (d) A while loop with `input()` to read input, and an `if` statement that compares the input to `"quit"` and if they match, executes a `continue`

Answer: (a) is obviously wrong, as it doesn't use a `for` loop. (d) is wrong, as the `continue` causes the loop to be executed again, starting at the beginning of the loop. Both (b) and (c) are correct; which one you should use depends on whether you will use the input in the loop and not just in the conditional. If you will use the input elsewhere in the loop, then (c) is better; if it will only be used in the conditional, (b) would be more appropriate.