We focus on how to introduced controlled repetition.

1. Questions?

2. From before: Booleans—basic operations—combining values—interaction with non-bools—identity vs. equivalence testing and None.

3. From before: Details on if—forms—nesting—pass.


5. Prompted input with input(prompt). Prints prompt and returns line entered by user as a string. (Conversion necessary for other types of input.)

6. Random numbers with random.randint(a,b). Typically:

   from random import randint
   ...
   x = randint(1,6)

   Picks a random integer between 1 and 6 inclusive. Importing and calling seed(n) will seed or restart the random sequence from a predictable point; helpful to call seed while debugging.

7. Looping: controlled and efficient repetition.

   (a) The for loop:
      i. Has the general form:
         for <variable> in <iterable>:
            <suite>
         
         The for executes the suite once for each element of an iterable (an object whose values can be encountered in sequence: lists, sets, strings, etc.).
      ii. You can immediately leave the loop if you execute a break statement. This should probably be guarded by an if statement. This may be useful when the iterable is infinite (more on this later).
      iii. Executing a continue finishes the current interaction and begins the next (with the condition test). Again, typically this is guarded by an if.

   (b) The while loop:
      i. Has general form:
         while <condition>:
            <suite>
Repeats suite as long as the condition is true. Typically, the suite will do something to potentially modify the condition.

i. The use of break and continue are possible. If condition is the tautology True, the break statement allows us to construct loops that test at the bottom or middle.

(c) Guiding principles:

i. Use a for loop when you know how many iterations you want to perform (exactly 10? iterate over a range; one for each x in S? iterate over S).

ii. Use a while loop when you're not sure how many times you'll execute the loop's suite (asking for input that may require re-prompting? use a while)


Rules of rock, paper, scissors, lizard, spock. (6dollarshirts.com)

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