Introduction to Recursion

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The ability to repeat the same computation (with different values for the variables) is key to many algorithms. So far, the algorithms we have seen have used *iteration* to express this repetition—they have used loops to repeat the steps until the appropriate conditions are met. However, there is another approach called *recursion*, in which the algorithm calls itself with different parameter values.

Recursive functions—those that call themselves—are important to understand because many algorithms are much easier to write recursively. We will note that any function you can write recursively you can write iteratively and vice-versa. However, for some problems, one style of algorithm may be simple while the other may be quite complex. Mastering both is crucial to becoming a skilled programmer.

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