The **Fibonacci sequence** is a pretty famous sequence of integer numbers. The sequence comes up naturally in many problems and has a nice recursive definition. Learning how to generate it is an essential step in the pragmatic programmer’s journey toward mastering [recursion](https://realpython.com/python-recursion/). In this tutorial, you’ll focus on learning what the Fibonacci sequence is and how to generate it using Python.

**In this tutorial, you’ll learn how to:**

* Generate the Fibonacci sequence using a **recursive algorithm**
* Optimize the recursive Fibonacci algorithm using **memoization**
* Generate the Fibonacci sequence using an **iterative algorithm**