

# Putting Computers to Work

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Computers operate by following a list of instructions set for them. These instructions enable them to sort, find and send information. To do these things as quickly as possible, you need good methods for finding things in large collections of data, and for sending information through networks.

An *algorithm* is a set of instructions for completing a task. The idea of an algorithm is central to computer science. Algorithms are how we get computers to solve problems. Some algorithms are faster than others, and many of the algorithms that have been discovered have made it possible to solve problems that previously took an infeasible length of time—for example, finding millions of digits in pi, or all pages that contain your name on the World-Wide Web, or finding out the best way to pack parcels into a container, or finding out whether or not very large (100-digit) numbers are prime.

The word “algorithm” is derived from the name of Mohammed ibn Musa Al-Khowarizmi—Mohammed, son of Moses, from Khowarizm—who joined an academic centre known as the House of Wisdom in Baghdad around 800AD. His works transmitted the Hindu art of reckoning to the Arabs, and thence to Europe. When they were translated into Latin in 1120AD, the first words were “Dixit Algorismi”—“thus said Algorismi”.