

CHAPTER 2

- **Abstraction:** The ability to separate the high-level view of an entity from the low-level details; a central intellectual tool in computer science.
- **Algorithm discovery:** Creating an algorithmic solution to a given problem.
- **Computation:** A sequential operation that calculates some value and saves the result.
- **Control operations:** Operations used in an algorithm that alter the top-to-bottom flow of control; usually, conditional and iterative operations.
- **Formal programming language:** A restrictive language used to describe algorithms in terms that a computer can execute.
- **Infinite loop:** A loop that does not terminate - in which the continuation condition never becomes false.
- **Input:** A sequential operation for receiving data from the outside world.
- **Loop:** The repetition of a block of instructions.
- **Natural language:** A language that is spoken and/or written by people in everyday life (for example, English).
- **Output:** A sequential operation for presenting results to the outside world.
- **Pattern matching:** The problem of finding one pattern within a larger string.
- **Posttest loop:** A loop in which the continuation condition is tested at the end of each pass through the loop.
- **Pretest loop:** A loop in which the continuation condition is tested at the beginning of each pass through the loop.
- **Primitive operation:** The instructions we assume the computing agent for an algorithm understands and can execute.
- **Pseudocode:** A notation for describing algorithms that lies between a formal program and plain natural language. Typically, pseudocode is highly structured, and uses well-understood and computable statements.
- **Sequential algorithm:** An algorithm that contains only sequential operations so that it is executed from top to bottom without any choice points or loops (also called a straight-line algorithm).
- **Sequential search:** The algorithm for searching an unordered collection of data for a particular value.
- **Straight-line algorithm:** An algorithm that contains only sequential operations so that it is executed from top to bottom without any conditionals or loops (also called a sequential algorithm).
- **Top-down design:** The process of viewing an operation at a high level of abstraction, and then later filling in the details required to implement the high-level operation.
- **Variable:** A named location for storing data values.