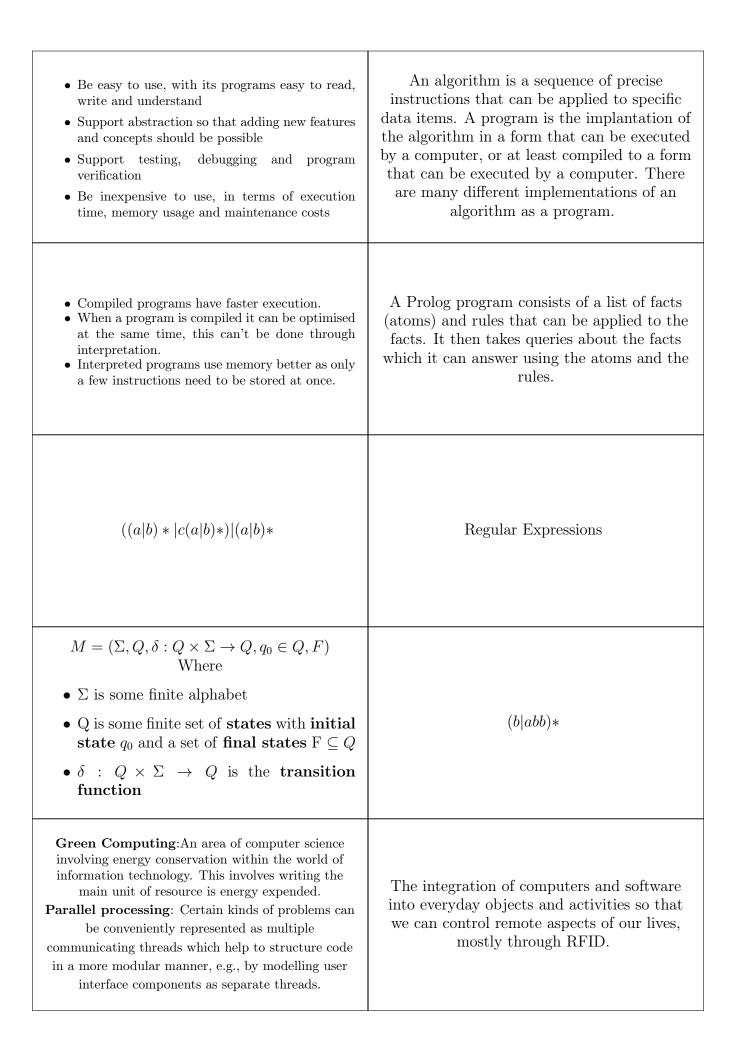
Briefly (and, necessarily, without being too precise) explain the difference between an algorithm and a program. Suppose we have an algorithm and wish to implement it in Python. How many different implementations are there of this algorithm? [5]	Give 3 general properties any programming language should have. [3]
Explain very briefly how a Prolog program computes. [4]	Give an advantage of compilation over interpretation, and of interpretation over compilation. [2]
In compilation, over 50% of the time taken can be spent on lexical analysis; that is, character handling. In moving from a program as a string of symbols to a token stream, which algebraic construction is usually used to define tokens? [2]	Give a regular expression that denotes the set of strings over the alphabet {a, b, c} consisting of strings with the property that there is always at most one c. [5]
Give a regular expression that denotes the set of strings over the alphabet {a, b} consisting of strings with the property that any a must always be followed by bb. [7]	Define carefully a finite state machine and explain how one is used to accept a set of strings. [8]
What is the fundamental principle of the research area known as ubiquitous computing? [2]	Give two illustrations of principles of Computational Thinking in the context of software. [2]



What is the relationship between regular expressions and finite state machines? [2]	

A set of strings is represented by a regular expression if, and only if, it is accepted by a finite state machine