



Computer Science: Fundamentals of algorithms

Representing algorithms

By **Eddie Coldrick** / Proofread by **Natalie Andrusyschyn**

Algorithm

A sequence of instructions in order to complete a specific task.

Decomposition

The breaking down of a problem into smaller sub-problems so that an algorithm can be understood more simply. They should be able to be broken down even further.

Abstraction

Removing extra/unnecessary steps from an algorithm to make it more simple to understand or follow.

Pseudo-code

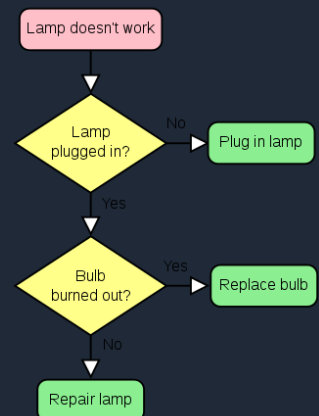
“Pseudo” = fake, false, not genuine. E.g. pseudonym - fake name
Pseudo-code = false code, not an actual programming language (e.g. Python)

You should be able to write pseudo-code for questions in the exam.

Flowcharts

Charts showing the flow of a computer programme. You should be able to draw these in the exam.

Image: svg by Booyabazooka/png by Wapcaplet



Determine the purpose of simple algorithms

You should be able to look at an algorithm and understand the purpose of it/the task it is giving the instructions for

Inputs, Processing and Outputs

You should be able to explain where these are taking place in an algorithm

Input = what is given into the algorithm e.g. temperature from a sensor or text written by the user

Processing = where the computer performs operations or figures something out e.g. logical operations, maths

Output = what goes out from the algorithm e.g. text displayed to a user or making an LED blink, for example