Computational Thinking– Cheat Sheet (2022)

This document aims to help task authors fill in the Computational Thinking section found at the top of the 2022 Bebras Task Template. This is a new section and the intention is that this change will be discussed, evaluated and improved at the Workshop in May.

Computational Thinking Skills

Task authors are asked to select all the Computational Thinking skills, from the list, that you feel will be useful when students are trying to solve this task. We hope this table will help task authors in the selection process:

CT Skill	How to spot use of the skill
Abstraction *Focusing on the important information only, ignoring irrelevant detail*	Hiding unnecessary details; Spotting key elements in problem; Choosing a representation of a system
Algorithmic Thinking *Developing a step-by-step solution to the problem, or the rules to follow to solve the problem*	Thinking in terms of sequences and rules; Executing an algorithm; Creating an algorithm
Decomposition *Breaking down a complex problem or system into smaller, more manageable parts*	Breaking down tasks; Thinking about problems in terms of component parts; Making decisions about dividing into sub-tasks with integration in mind, e.g. deduction
Evaluation *Ensuring that your solution is a good one.*	Finding best solution; Making decisions about whether good use of resources; Fitness for purpose
Pattern Recognition *Looking for similarities among and within problems*	Identifying patterns as well as similarities and connections, and identifying when patterns are not fully established; Extrapolating or interpolating data; Putting repeated instructions into a loop or function;