

Information

Algorithms are explicit step by step instructions to complete a set task or achieve an objective. Humans use algorithms every day to complete tasks. When driving a car, putting a load of washing on, making food or a cup of tea. Actions performed by a human are algorithms, they may not be commonly referred to as algorithms.

In the context of digital technology, an algorithm is a logic instruction. Every action that a computer does requires an algorithm typing a character, saving a document, enlarging or changing font. These simple tasks will use computer algorithms. A computer needs to be told exactly what to do, every movement needs to be explicitly stated. Without each step properly defined, digital systems may not be able to complete the required task.

Humans have the ability to infer. If students were given the task to 'tidy the classroom', students will understand the expectations and tasks involved to complete the broad task. A digital system does not work like that! A digital system needs to know all the tasks (even the small ones) that are needed to tidy the room.

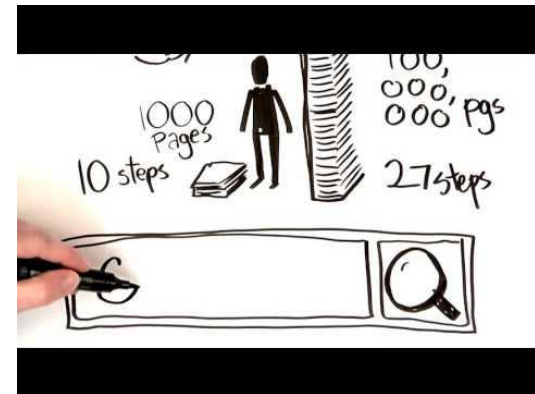
Curriculum Expectation

Algorithms in the early stages is introducing students to the step by step instructions at an explicit level. Algorithms can be presented in English language to solve a simple problem. Symbols (such as giving directions using arrows) can also be used to create an algorithm. Procedural texts can be incorporated into teaching algorithms because the common goal of both is following a set of instructions.

Video Resource

Click the image to open the video

This video explains how are used in everyday life to complete basic activities and tasks.



Video Source: Tech Policy Lab, University of Washington

ALGORITHMS

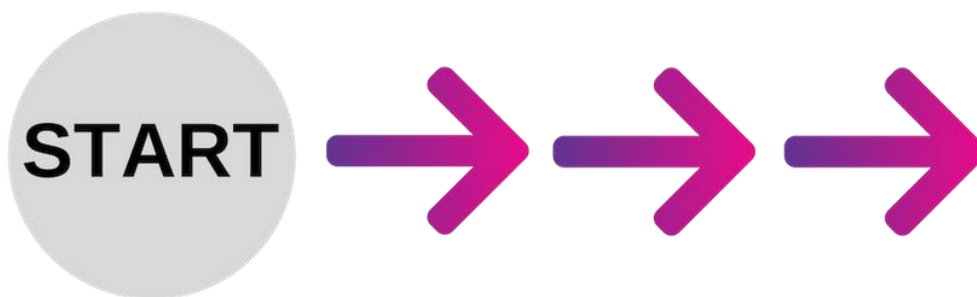
Explicit instructions to complete a task

Step by step, explicit instructions to solve a problem or perform a simple task.



How many explicit steps does it take to make a piece of toast?

Algorithms are broken down, explicit instructions as step by step instructions. They can be presented in English or symbols.



(arrows show take 3 steps to the right)

