



Key Vocabulary

Keyword	Definition
computational thinking	A set of problem-solving methods that involve conveying problems and solutions in a way that a computer could also execute.
decomposition	Breaking down a difficult problem into smaller and more manageable parts so it is easier to understand.
Logical reasoning	To explain how some simple algorithms work and use reasoning to debug errors.
simulation	Mathematic modelling on a computer which is designed to predict the outcome/behaviour of a real-world system.
variables	A value that can change, depending on the conditions that are met, or information passed to the program.

What Is an Algorithm?

Algorithms on a computer are exactly the same as everyday **algorithms**. They are a set of **sequenced** instructions or rules for solving a problem or completing a task in a logical order.

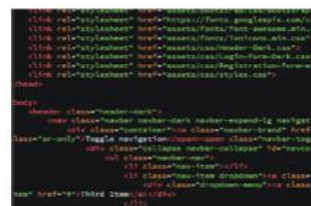
Computers need to have their instructions written in a special language called a programming language. We sometimes call this computer code.

There are lots of different types of programming languages. Some software uses visual block-based coding while others use text-based coding.

Scratch uses visual block-based coding to create **algorithms**.



Other computer programming software uses text-based coding, such as HTML.



What colour are the 'motion' blocks?

What will happen if there is no green flag?

What does 'debug' mean when coding?

What will happen if a section of code is incorrect?

TOP TIP – After a sequence of codes, run the algorithm to check for any corrections or areas of improvement.

Variables, controls and events allow you to perform tasks with little to no maintenance. Video games are excellent examples of coding sequences that have achieved this.

Awesome Animation

There are many ways to develop your animations in Scratch. You could:

Add **Sounds**.

Add **Motion** blocks to sprites.

Change **Backdrops**.

Change **Costumes**.