

Computing Animations in Scratch

Overview

Programming involves giving a computer a series of step-by-step instructions to follow. Scratch is a creative coding platform that allows us to design and build our own animations and interactive stories. To make



things happen in the right order, we use something called an algorithm, which is a clear set of instructions that tells the computer what to do. By carefully sequencing movements, sounds, and actions, we can control how characters behave and bring our animations to life. This order is important because it affects how the final project looks and works on screen.

Scratch

Scratch is a website and app that lets us create our own games, stories, and animations using code.

There are 3 main parts to the screen in Scratch:

The Blocks Palette (left) contains all the commands we can give our sprites.
Code area (centre) is where the blocks are arranged to create an algorithm.
Stage (right) is where the output of our algorithm is displayed

Programming with blocks

To start programming, first click on the stage element you want to control, like a sprite or the background. Then, drag your chosen blocks into the coding area. If you need to remove a block, right-click on it and choose 'delete block.'

Editing Blocks

Some blocks have white spaces where you can enter your own values. Simply click on these areas and type in what you need.

Running and Debugging Code

You can run your code by triggering the event block (e.g. clicking the green flag). If it doesn't work as expected, check for mistakes and fix them. This process is called debugging.

Sequencing in Scratch

A sequence is a set of steps that happen one after another in a specific order. In Scratch, we create sequences by stacking blocks on top of each other in the coding area.

To start a sequence, we use event blocks, which are orange and have a rounded top. These blocks tell the program when to begin running the code.

Planning your sequence using an algorithm—a clear set of instructions—can help you organise your ideas and build a working program that does exactly what you want.

Key Questions

What is Scratch and what can you create with it?

Scratch is a website and app that lets users create their own stories, games, and animations using code.

What is a sequence in Scratch, and how do we build one?

A sequence is a set of steps that follow one another in order.

Which block is used to start a sequence, and what does it look like?

Event blocks start sequences. They are orange and have a curved top to fit at the beginning of a stack of blocks.

What is an algorithm, and why is it helpful when creating a project in Scratch?

An algorithm is a set of step-by-step instructions for performing a task.

What does the 'forever' block do in a Scratch program?

The 'forever' block repeats the code inside it continuously for as long as the program is running.

Why do some blocks have white spaces?

To enter your own values

Where do you find the blocks you can use to build an Algorithm in Scratch?

The Block Palette

Key Vocabulary

Programming, Scratch, Blocks, Code, Sprite, Costume, Stage, Backdrop, Motion, Point in direction, Go to, Event, Task, Run the code, Order, Bug