

Computing

Programming sequences

Overview



Programming is the process of creating instructions that a computer can follow.

Scratch is a tool that allows us to code our own animations and stories using on-screen characters called sprites.

To make sprites perform actions, we use algorithms—step-by-step instructions designed to complete a task.

We use the web version of Scratch Jr. at codejr.org



Getting Started in Scratch Jr.

Tap the + to create a new project.

These are programming blocks—we drag them into the programming area at the bottom.



Clicking a block in the programming area makes the sprite move or act on the stage.



Moving Blocks: These blocks control how the sprite moves in different directions.



Background: You can add a background by selecting the background icon.



Start Blocks: These yellow blocks are used to begin or run a program.



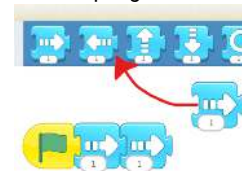
End Blocks: Red blocks indicate what happens when the program finishes.



Sequences, algorithms and programming

Sequences: A sequence is an ordered set of steps where one action follows another. In Scratch Jr., we create sequences by connecting blocks to build a program.

Removing Blocks: To delete a block from a program, simply drag it from the programming area back to the blocks palette.



Repeating Blocks: To make an action repeat multiple times, adjust the number shown beneath the block.

Running the Code: Start your animation by tapping the green flag.



Key Vocabulary

Command, Sprite, Programming area, Block, Joining, Run, Start block, Background, Delete, Reset, Predict, Effect, Change, Instructions, Design

An algorithm is a series of steps that tell a computer how to complete a task. Planning an algorithm helps us control what the sprite does.

Programming involves arranging blocks in the correct order to match our algorithm, allowing the sprite to follow the instructions and perform actions.



Sometimes, things don't go as planned on the first try. The issue might be with our algorithm or a mistake in our programming.

If the animation isn't working as expected, we need to debug it. This means spotting and correcting any errors.

Key Questions

What is a command?

An instruction for the computer to follow

What is an Algorithm?

A list of commands a computer follows in order

What is a bug in computing?

A mistake that makes the algorithm not work.

What is debugging?

Looking for and fixing the mistakes in an algorithm

What is a sprite?

A 2D picture in Scratch and Scratch Jr that can be given instructions