



Key Vocabulary: We are bug fixers

algorithm: a sequence of instructions or list of rules to complete a task

code: an algorithm which is written using programming language

input: data supplied or inputted to a computer

output: information produced by a computer e.g. an animation

bug: an error or a mistake in a computer program/algorithm

Scratch: a programming language which can be used to make algorithms

script: a set of instructions for the computer to follow

debug: correct mistakes in a computer program/algorithm

Different types of bugs

Off-by-one bug

Here, an instruction in a program repeats one too many, or one too few, times.

Performance bug

This is where a program doesn't perform as well as it could. It could work more quickly or efficiently.

Multi-thread bug

These bugs occur when several things need to happen at the same time. For example, there might be two processes where each is waiting for the other to complete, or one process that races ahead of the other.

Conceptual bug

This happens when the programmer hasn't fully understood the idea of what is supposed to happen in the program. The bug lies in the idea for the program rather than the code. These sorts of bugs are tricky to find and fix!

Arithmetical bug

These bugs occur when the computer cannot 'do' the maths required, such as divide by zero.

Resource bug

These bugs happen when the programmer hasn't fully understood how the language or the operating system actually works, so the programming they want to do can't be done.

What you will know

- *To know how to fix bugs in computer programs
- *To know how to correct an error in an off-by one bug.
- *To know how to correct an error in a performance bug.
- *To know how to correct an error in a multithread bug.
- *To know how to correct an error in a conceptual bug.
- *To know how to correct an error in an arithmetical bug.