

Kit's Computing: Mastering Debugging

Learning objective: To understand what debugging is, why it is necessary in computer programming, and how to identify and fix errors in algorithms.

Read each flashcard to learn about debugging. Use these cards to test your knowledge of how to spot and fix mistakes in code.

What is a 'bug' in computing?

A bug is an error, flaw, or mistake in a computer program that stops it from working as expected.

What is 'debugging'?

Debugging is the process of finding and fixing errors (bugs) within a computer program or algorithm.

Kit the fox says: 'If my robot moves left instead of right, what do I have?'

You have a bug in your code.

Why is it important to check your sequence when debugging?

Because a computer follows instructions in a specific order, if one step is in the wrong place, the whole program might fail.

What is a 'syntax error'?

A syntax error happens when you use a command that the computer does not understand, like a spelling mistake in code.

What does it mean to 'predict' before you run your code?

It means guessing what the program will do, which helps you spot if it does something different than you planned.

If a program runs but gives the wrong result, what is this called?

A logical error (or a logic bug).

Why should you test your code in small parts?

It makes it much easier to identify exactly where a bug is hiding if the program goes wrong.

True or False: Debugging is only for when the program crashes completely.

False. Debugging is also used to fix programs that run but give the wrong results.

What is a simple way to debug a set of instructions?

Read through your algorithm step-by-step to see if every instruction makes sense.

Kit's Top Tip: What should you do after fixing a bug?

Run the program again to test it and make sure the bug is truly gone.